LINSCOTT LAW & GREENSPAN engineers

TRAFFIC IMPACT ANALYSIS REPORT

NUVO EL TORO RESIDENTIAL PROJECT

Mission Viejo, California
May 11, 2020

Prepared for:

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EXECUTIVE SUMMARY

Project Description

- The proposed Project site consists of approximately 3.50 acres of vacant land located on the southwest quadrant of El Toro Road and the SR-241 Toll Road in the City of Mission Viejo, California. The proposed Project will consist of 91 attached (low-rise) townhouse condominiums. The proposed Project is expected to be completed and fully occupied by the Year 2023.

- Vehicular access for the proposed Project is proposed via a new full-access unsignalized driveway on El Toro Road. Per direction from the City of Mission Viejo, the following Project feature and driveway configuration options are evaluated in this report to ensure that adequate ingress and egress to the Project site is provided:

  - **Project Feature *(this improvement will be assumed for both options):*** Reconfigure the median to convert the existing eastbound left-turn pocket (providing access to the existing StorageWest facility located directly across El Toro Road from the Project site) into a two-way-left-turn (TWLT) lane connecting to the existing TWLT lane east of the StorageWest facility driveway. Reconfigure the existing raised median west of the Project driveway to provide an acceleration lane for northbound left-turning vehicles exiting the Project site onto westbound El Toro Road.

  - **Option #1:** Restripe the No. 3 eastbound through lane along El Toro Road (from Marguerite Parkway to the Project driveway) into an exclusive eastbound right-turn lane with a 300-foot striped deceleration lane for eastbound right-turning vehicles entering the Project site. Restripe the No. 3 eastbound through lane along El Toro Road, east of the Project driveway, to provide a 200-foot protected acceleration lane for northbound right-turning vehicles exiting the Project site onto eastbound El Toro Road. This site access option will remove one (1) existing eastbound through lane along El Toro Road across the Project frontage and may require coordination with OCTA regarding a Master Plan of Arterial Highways (MPAH) Amendment for El Toro Road.

  - **Option #2:** Widen El Toro Road to provide a 300-foot deceleration lane, with a 120-foot transition, for eastbound right-turning vehicles entering the Project site. Widen El Toro Road to provide a 200-foot eastbound acceleration lane, with a 120-foot transition, for northbound right-turning vehicles exiting the Project site onto eastbound El Toro Road. This site access option will continue to provide three (3) eastbound through lanes along El Toro Road across the Project frontage.

- The proposed Project (81 DU) is expected to generate 666 daily trips (one half arriving and one half departing), with 42 trips (10 inbound, 32 outbound) produced in the AM peak hour and 51 trips (32 inbound, 19 outbound) produced in the PM peak hour on a "typical" weekday.

Project Study Area

- The key study intersections with their respective jurisdictions listed below provide both local and regional access to the study area and define the extent of the boundaries for this traffic impact investigation:

  1. Glenn Ranch Road at El Toro Road (Mission Viejo)
  2. Marguerite Parkway/Saddleback Church at El Toro Road (Mission Viejo)
  3. Marguerite Parkway at Los Alisos Boulevard (Mission Viejo)
  4. Santa Margarita Parkway/Portola Parkway at El Toro Road (Lake Forest)
  5. Portola Parkway at SR-241 Ramps (Lake Forest/Caltrans)
  6. Project Driveway at El Toro Road (Mission Viejo – Future Intersection)

- The six (6) roadway segments listed below were selected based on the arterial network within the study area and discussions with City of Mission Viejo staff:

  A. El Toro Road, between Glenn Ranch Road and Cielo Entrada (Lake Forest)
  B. El Toro Road, between Project Driveway and Glen Ranch Road (Mission Viejo)
  C. El Toro Road, between Marguerite Parkway/Saddleback Church and Project Driveway (Mission Viejo)
  D. El Toro Road, between Santa Margarita Parkway/Portola Parkway and Marguerite Parkway/Saddleback Church (Lake Forest)
  E. Portola Parkway, between SR-241 Ramps and El Toro Road (Lake Forest)
  F. Marguerite Parkway, between El Toro Road and Los Alisos Boulevard (Mission Viejo)

Cumulative Projects

- The six (6) cumulative projects are forecast to generate a total of 21,439 daily trips, with 2,069 trips (734 inbound, 1,335 outbound) forecast during the AM peak hour and 2,196 trips (1,335 inbound, 861 outbound) forecast during the PM peak hour.

Traffic Impact Analysis

Existing Traffic Conditions

- All five (5) key study intersections are forecast to operate at acceptable LOS C or better for Existing traffic conditions.

- All six (6) key roadway segments are forecast to operate at acceptable LOS A for Existing traffic conditions.

Existing With Project Traffic Conditions

- All five (5) key study intersections are forecast to operate at acceptable LOS C or better for Existing With Project traffic conditions.

- All six (6) key roadway segments are forecast to operate at acceptable LOS A for Existing With Project traffic conditions.

Year 2023 With Project Traffic Conditions

- All five (5) key study intersections are forecast to operate at acceptable LOS D or better under Year 2023 With Project traffic conditions.

- All six (6) key roadway segments are forecast to operate at acceptable LOS A for Year 2023 With Project traffic conditions.

Year 2045 With Project Traffic Conditions

- The traffic associated with the proposed Project ***will not*** significantly impact any of the five (5) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of El Toro Road at Glenn Ranch Road is forecast to operate at unacceptable LOS F during the PM peak hour with the addition of Project traffic, the Project is expected to add less than the allowable threshold to the ICU value. The remaining four (4) key study intersections are forecast to continue to operate at acceptable LOS D or better during the AM and PM peak hours with the addition of Project generated traffic in the Year 2045.

- All six (6) key roadway segments are forecast to operate at acceptable LOS A for Year 2045 With Project traffic conditions.

Caltrans Facilities Analysis

Existing Traffic Conditions

- The one (1) state-controlled study intersection currently operates at acceptable LOS B during the AM and PM peak hours.

Existing With Project Traffic Conditions

- The one (1) state-controlled study intersection is forecast to continue to operate at acceptable LOS B during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.

Year 2023 With Project Traffic Conditions

- The one (1) state-controlled study intersection is forecast to continue to operate at an acceptable LOS B during the AM and PM peak hours with the addition of Project generated traffic to Year 2023 cumulative traffic.

Year 2045 With Project Traffic Conditions

- The one (1) state-controlled study intersection is forecast to continue to operate at an acceptable LOS B during the AM and PM peak hours with the addition of Project generated traffic to Year 2045 buildout traffic.

Site Access & On-Site Circulation

- The Project driveway is forecast to operate at acceptable LOS C or better during the AM and PM peak hours under the Year 2023 With Project traffic conditions for both site access Options #1 and #2. The Project driveway is forecast to operate at acceptable LOS D or better during the AM and PM peak hours under Year 2045 With Project traffic conditions for both site access Options #1 and #2, except for site access Option #2 during the PM peak hour under Year 2045 With Project traffic conditions. It should be noted that the delay reported for the intersection of Project Driveway at El Toro Road represents the minor street approach and it is not uncommon for unsignalized private driveways that have direct access to primary arterials, such as El Toro Road, to operate at an unacceptable LOS due to the limited gaps in traffic and the high volume of traffic on the major street, but technically do not operate as a congested facility similar to a public street intersection since there is no traffic impact to the transportation network. Furthermore, the peak driveway queue can be accommodated entirely within the driveway throat. Based on these considerations, the adverse level of service is not considered significant.

- The unsignalized Project driveway, for both site access Options #1 and #2, does not have future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and/or Part B for the AM or PM peak hour for the Year 2023 With Project and Year 2045 With Project traffic conditions.

- Motorists entering and exiting the Project site from this driveway will be able to do so comfortably, safely, and without undue congestion.

- Adequate sight distance will be provided at the proposed Project driveway along El Toro Road.

Project-Specific Access Improvements

- Per direction from the City of Mission Viejo, the following Project-specific traffic improvement will be implemented to facilitate ingress and egress to the project site:

  - **Project Feature *(this improvement will be assumed for both options):*** Reconfigure the median to convert the existing eastbound left-turn pocket (providing access to the existing StorageWest facility located directly across El Toro Road from the Project site) into a two-way-left-turn (TWLT) lane connecting to the existing TWLT lane east of the StorageWest facility driveway. Reconfigure the existing raised median west of the Project driveway to provide an acceleration lane for northbound left-turning vehicles exiting the Project site onto westbound El Toro Road.

  - **Option #1:** Restripe the No. 3 eastbound through lane along El Toro Road (from Marguerite Parkway to the Project driveway) into an exclusive eastbound right-turn lane with a 300-foot striped deceleration lane for eastbound right-turning vehicles entering the Project site. Restripe the No. 3 eastbound through lane along El Toro Road, east of the Project driveway, to provide a 200-foot protected acceleration lane for northbound right-turning vehicles exiting the Project site onto eastbound El Toro Road. This site access option will remove one (1) existing eastbound through lane along El Toro Road across the Project frontage and may require coordination with OCTA regarding a Master Plan of Arterial Highways (MPAH) Amendment for El Toro Road.

  - **Option #2:** Widen El Toro Road to provide a 300-foot deceleration lane, with a 120-foot transition, for eastbound right-turning vehicles entering the Project site. Widen El Toro Road to provide a 200-foot eastbound acceleration lane, with a 120-foot transition, for northbound right-turning vehicles exiting the Project site onto eastbound El Toro Road. This site access option will continue to provide three (3) eastbound through lanes along El Toro Road across the Project frontage.

Recommended Improvements

- The proposed Project is not forecast to have a significant impact at any of the five (5) key intersections or six (6) roadway segments under Existing With Project, Year 2023 With Project, and Year 2045 With Project traffic conditions. As there are no significant impacts, no traffic mitigation measures are required or recommended for the intersections.

Congestion Management Program (CMP) Analysis

- The proposed Project is expected to generate 666 daily trips, and thus does not meet the criteria required for a CMP traffic analysis. Therefore, it is concluded that the proposed Project will not have any significant traffic impacts on the Congestion Management Program Highway System.

Construction Traffic Impacts

- The site grading/excavation construction component is expected to generate 640 daily trips with 89 trips produced during the AM peak hour and 89 trips produced during the PM peak hour. The building foundation/framing/construction component is expected to generate 204 daily trips with 42 trips produced during the AM peak hour and 42 trips produced during the PM peak hour. The paving/concrete/landscaping construction component is expected to generate 108 daily trips with 33 trips produced during the AM peak hour and 33 trips produced during the PM peak hour. Construction related trips associated with trucks and employees traveling to and from the site in the morning and afternoon may result in some minor traffic delays; however, potential traffic interference caused by construction vehicles would create a temporary/short-term impact to vehicles using El Toro Road in the morning and afternoon hours and the number of construction workers will vary depending on the specific construction activities over time. Traffic impacts to the adjacent roadway network will be minimal and ***not*** long-term.

  Although the trip generation potential of the site grading/excavation construction component is greater than the trip generation potential of the proposed Project, it can be qualitatively concluded that this construction component will not significantly impact any of the five (5) key study intersections as these intersections currently operate at acceptable LOS C or better during the AM and PM peak hours and this construction component would not degrade these intersections into an un acceptable level of service.

- To ensure impacts to the surrounding street system are kept a minimum, it is recommended that a Construction Management Plan for the proposed Project be developed. The Construction Management Plan should be developed in coordination with the City of Mission Viejo and at a minimum, address the following:

  - Traffic control for any street closure, detour, or other disruption to traffic circulation.
  - Identify the routes that construction vehicles will utilize for the delivery of construction materials (i.e. lumber, tiles, piping, windows, etc.), to access the site, traffic controls and detours, and proposed construction phasing plan for the project.
  - Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.
  - Require the Applicant to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material which may have been spilled, tracked, or blown onto adjacent streets or areas.
  - Hauling or transport of oversize loads will be allowed between the hours of 9:00 AM and 3:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport will be allowed during nighttime hours, weekends or Federal holidays.
  - Use of local streets shall be prohibited.
  - Haul trucks entering or exiting public streets shall at all times yield to public traffic.

- If hauling operations cause any damage to existing pavement, street, curb, and/or gutter along the haul route, the applicant will be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer.
- All construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur on-site.
- This Plan shall meet standards established in the current *California Manual on Uniform Traffic Control Device (MUTCD)* as well as City of Mission Viejo requirements.

VMT Assessment

- The 2019 CEQA Guidelines include an updated Appendix G checklist and a new section (15064.3) that significantly changes how transportation impacts are evaluated under CEQA. Delay-based levels of service are no longer considered a significant impact under CEQA, although the new guidelines do not preclude local agencies from continuing to utilize LOS for roadway planning and project evaluation. Section 15064.3 recommends that a project's transportation impacts be evaluated using vehicle miles traveled (VMT). VMT is simply a calculation of the project's trip generation times the average trip length for a project in that area. Per Section 15064.3(c), local agencies have until July 1, 2020 to fully implement the use of VMT for evaluation of transportation impacts. At this time, the City of Mission Viejo has not yet adopted a method for evaluating VMT or thresholds of significance for projects in the City. The VMT for the proposed Novo El Toro Project has been evaluated using the CalEEMod software. The proposed 91-unit Project is forecast to generate 1,928,504 annual VMT, or approximately 5,284 VMT per day.

TRAFFIC IMPACT ANALYSIS REPORT

NUVO EL TORO RESIDENTIAL PROJECT

Mission Viejo, California
May 11, 2020

1.0 INTRODUCTION

This traffic impact analysis report addresses the potential traffic impacts and circulation needs associated with the proposed Nuvo El Toro Residential project (hereinafter referred to as Project). The proposed Project site consists of approximately 3.50 acres of vacant land located on the southwest quadrant of El Toro Road and the SR-241 Toll Road in the City of Mission Viejo, California. The proposed Project will consist of 91 attached (low-rise) townhouse condominiums. Access for the proposed Project is proposed via a new full-access unsignalized driveway on El Toro Road.

This report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential impacts associated with the Project. The traffic analysis evaluates the existing operating conditions at five (5) key study intersections and six (6) key roadway segments within the Project vicinity, estimates the trip generation potential of the Project, and forecasts future operating conditions without and with the proposed Project. Where necessary, intersection improvements/mitigation measures are identified.

The traffic report satisfies the traffic impact requirements of the City of Mission Viejo and is consistent with the most current *Congestion Management Program (CMP) for Orange County.* The Scope of Work for this traffic study, which is included in ***Appendix A***, was developed in conjunction with City of Mission Viejo Traffic Engineering staff.

The Project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing traffic information has been collected at five (5) key study intersections and six (6) key roadway segments on a "typical" weekday for use in the preparation of intersection and roadway segment level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity of the proposed Project has been researched at the City of Mission Viejo, the County of Orange, the City of Lake Forest, and the City of Rancho Santa Margarita. Based on our research, there are two (2) cumulative projects in the City of Mission Viejo, two (2) cumulative projects in the County of Orange, and two (2) cumulative projects in the City of Lake Forest within the vicinity of the Project site. There were no cumulative projects identified by the City of Rancho Santa Margarita in the vicinity of the Project site. These six (6) planned and/or approved cumulative projects were considered in the cumulative traffic analysis for this Project.

This traffic report analyzes existing and future weekday daily, AM peak hour and PM peak hour traffic conditions for a near-term (Year 2023 – Project Opening Year) and long-term (Year 2045) traffic setting upon completion of the proposed Project. Daily and peak hour traffic forecasts for the

Year 2023 horizon year have been projected by increasing existing traffic volumes by an annual growth rate of one percent (1.0%) per year and adding traffic volumes generated by six (6) cumulative projects. Long-term (Year 2045) daily and peak hour traffic forecasts were projected based on modeled traffic projections utilizing the OCTAM 5.0 Year 2045 Model.

1.1 Study Area

1.1.1 *Intersections*

The study intersections listed below are locations that could potentially be impacted by the Project. Five (5) existing key study intersections and one (1) future Project driveway listed below were selected for evaluation based on discussions with City of Mission Viejo staff. The key study intersections with their respective jurisdictions listed below provide both local and regional access to the study area and define the extent of the boundaries for this traffic impact investigation:

1. Glenn Ranch Road at El Toro Road (Mission Viejo)
2. Marguerite Parkway/Saddleback Church at El Toro Road (Mission Viejo)
3. Marguerite Parkway at Los Alisos Boulevard (Mission Viejo)
4. Santa Margarita Parkway/Portola Parkway at El Toro Road (Lake Forest)
5. Portola Parkway at SR-241 Ramps (Lake Forest/Caltrans)
6. Project Driveway at El Toro Road (Mission Viejo – Future Intersection)

1.1.2 *Roadway Segments*

The study roadway segments listed below are locations that could potentially be impacted by the Project. The six (6) roadway segments listed below were selected based on the arterial network within the study area and discussions with City of Mission Viejo staff:

A. El Toro Road, between Glenn Ranch Road and Cielo Entrada (Lake Forest)
B. El Toro Road, between Project Driveway and Glen Ranch Road (Mission Viejo)
C. El Toro Road, between Marguerite Parkway/Saddleback Church and Project Driveway (Mission Viejo)
D. El Toro Road, between Santa Margarita Parkway/Portola Parkway and Marguerite Parkway/Saddleback Church (Lake Forest)
E. Portola Parkway, between SR-241 Ramps and El Toro Road (Lake Forest)
F. Marguerite Parkway, between El Toro Road and Los Alisos Boulevard (Mission Viejo)

1.2 Traffic Impact Analysis Components

The Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with area growth, cumulative projects and the proposed Project. When necessary, this report recommends intersection and/or roadway segment improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service and/or mitigate the impact of the Project.

Included in this Traffic Impact Analysis are:

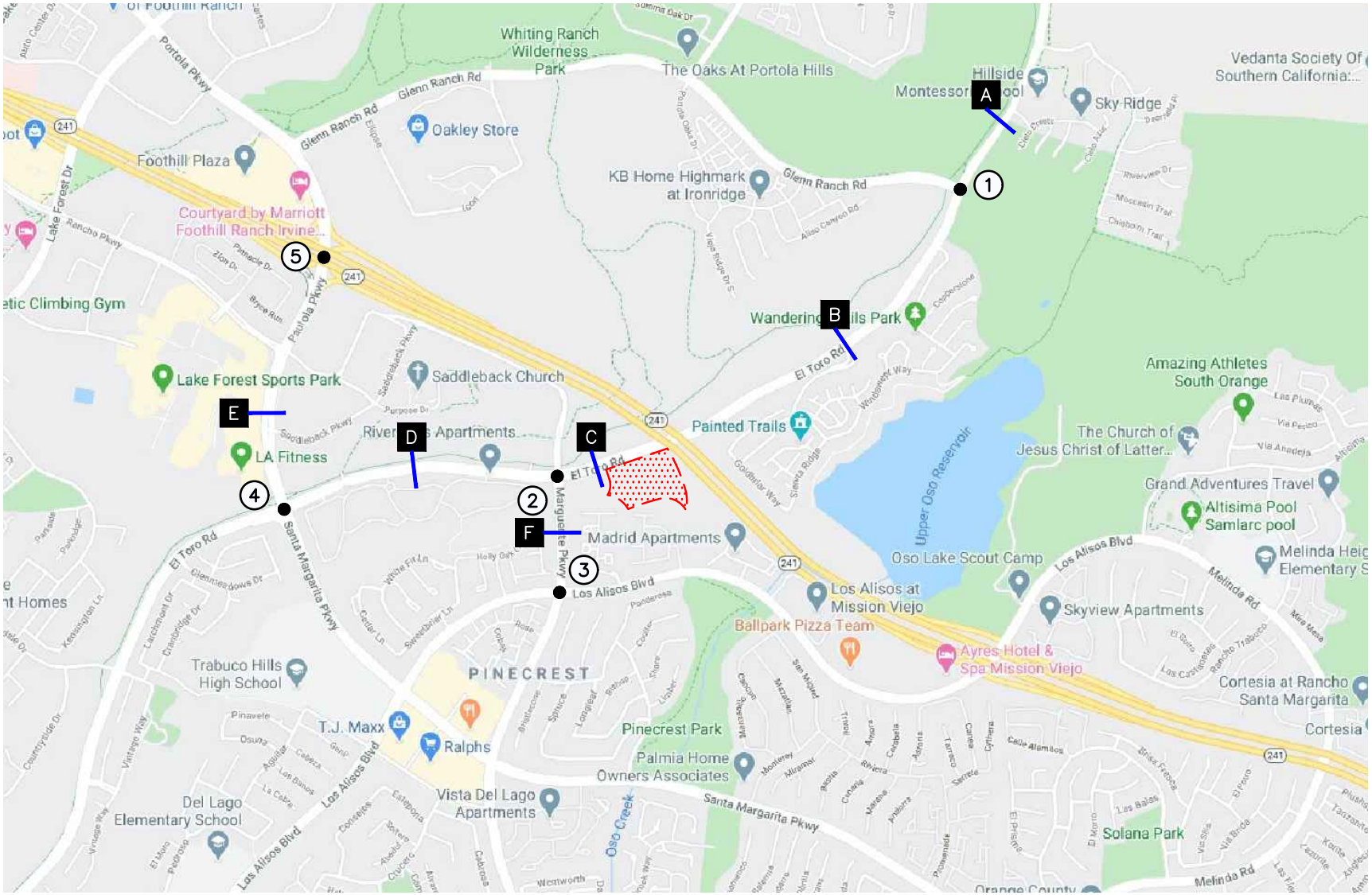
- Existing traffic counts,
- Estimated Project traffic generation/distribution/assignment,
- Estimated cumulative project traffic generation/distribution/assignment,
- Daily, AM and PM peak hour LOS analyses for Existing Conditions,
- Daily, AM and PM peak hour LOS analyses for Existing With Project traffic conditions,
- Daily, AM and PM peak hour LOS analyses for Near-Term (Year 2023) conditions without and with Project traffic,
- Daily, AM and PM peak hour LOS analyses for Long-Term (Year 2045) conditions without and with Project traffic,
- Caltrans Facilities Analysis (HCM Methodology),
- Site Access and On-Site Circulation Analysis,
- Area-Wide Traffic Improvements,
- Congestion Management Program (CMP) Assessment,
- Construction Traffic Impact Analysis, and
- VMT Assessment.

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the Project and depicts the study locations and surrounding street system. ***Figure 1-2*** presents a Regional Map, which illustrates the general location of the Project, surrounding cities and the regional freeway system.

1.3 Traffic Impact Analysis Scenarios

The following scenarios are those for which ICU, V/C and corresponding LOS calculations have been performed at the key intersections and key roadway segments for existing, near-term and long-term traffic conditions:

A. Existing Traffic Conditions,
B. Existing With Project Traffic Conditions,
C. Scenario (B) with Recommended Improvements, if any,
D. Year 2023 Without Project Traffic Conditions,
E. Year 2023 With Project Traffic Conditions,
F. Scenario (E) With Recommended Improvements, if any,
G. Year 2045 Without Project Traffic Conditions,
H. Year 2045 With Project Traffic Conditions, and
I. Scenario (H) With Recommended Improvements, if any.



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

(#) = STUDY INTERSECTION

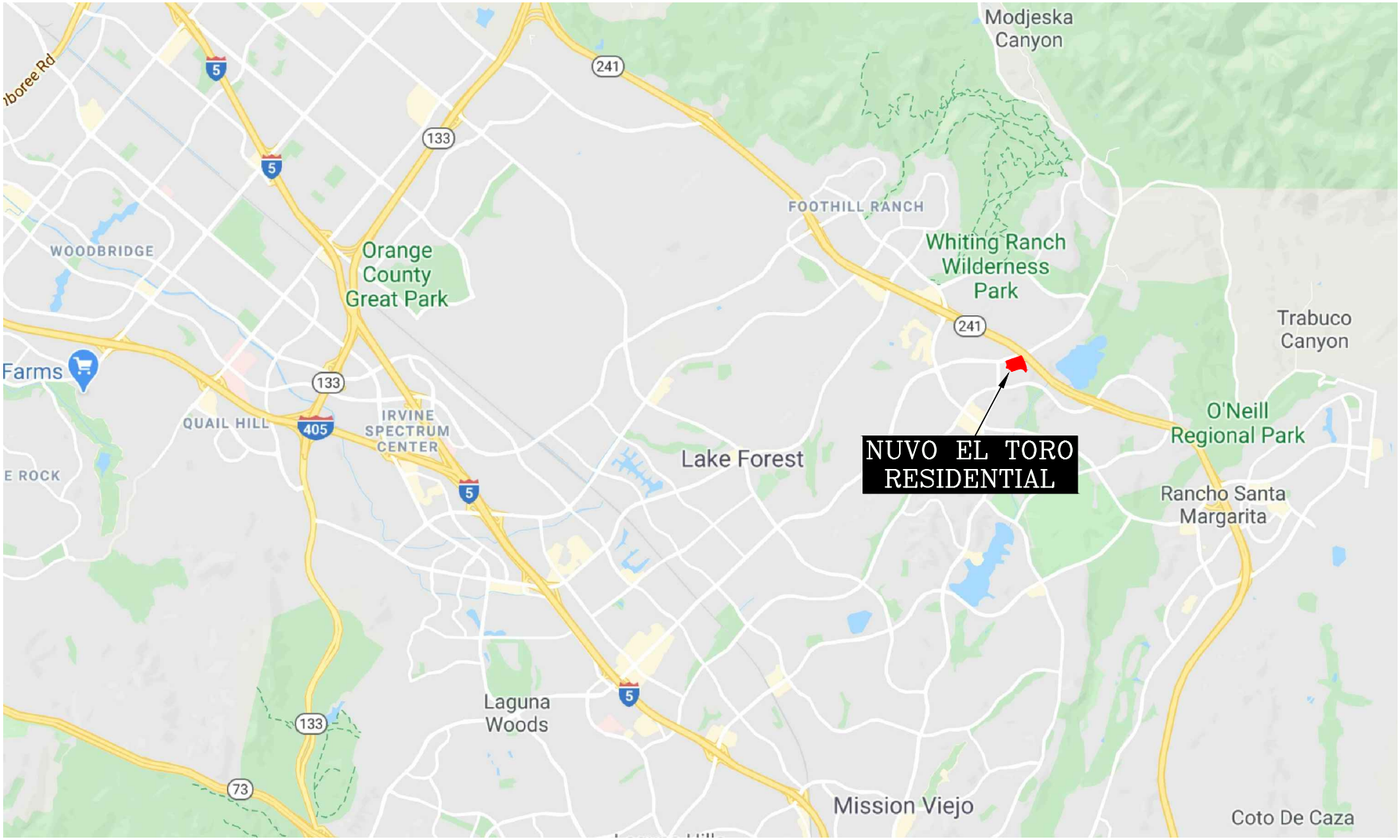
[#] = STUDY ROADWAY SEGMENT

= PROJECT SITE

FIGURE 1-1

VICINITY MAP

NUVO EL TORO RESIDENTIAL, MISSION VIEJO



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

= PROJECT SITE

FIGURE 1-2

REGIONAL MAP

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

2.0 PROJECT DESCRIPTION AND LOCATION

The proposed Project site consists of approximately 3.50 acres of vacant land located on the southwest quadrant of El Toro Road and the SR-241 Toll Road in the City of Mission Viejo, California. ***Figure 2-1*** presents an aerial depiction of the existing site, which is currently vacant.

Figure 2-2 presents the site plan for the proposed Project. Review of the proposed site plan indicates that the proposed Project will consist of 91 attached (low-rise) townhouse condominiums. The proposed Project is expected to be completed and fully occupied by the Year 2023.

2.1 Site Access

As shown in *Figure 2-2*, vehicular access for the proposed Project is proposed via a new full access unsignalized driveway on El Toro Road. A deceleration lane will also be provided at the proposed Project driveway.

2.2 Project Specific Access Improvements

Per direction from the City of Mission Viejo, the following Project feature and driveway configuration options are evaluated in this report to ensure that adequate ingress and egress to the Project site is provided. The selected site access option below will be constructed by the proposed Project to ensure that adequate ingress and egress to the project site is provided:

- **Project Feature *(this improvement will be assumed for both options):*** Reconfigure the median to convert the existing eastbound left-turn pocket (providing access to the existing StorageWest facility located directly across El Toro Road from the Project site) into a two-way-left-turn (TWLT) lane connecting to the existing TWLT lane east of the StorageWest facility driveway. Reconfigure the existing raised median west of the Project driveway to provide an acceleration lane for northbound left-turning vehicles exiting the Project site onto westbound El Toro Road.

- **Option #1:** Restripe the No. 3 eastbound through lane along El Toro Road (from Marguerite Parkway to the Project driveway) into an exclusive eastbound right-turn lane with a 300-foot striped deceleration lane for eastbound right-turning vehicles entering the Project site. Restripe the No. 3 eastbound through lane along El Toro Road, east of the Project driveway, to provide a 200-foot protected acceleration lane for northbound right-turning vehicles exiting the Project site onto eastbound El Toro Road. This site access option will remove one (1) existing eastbound through lane along El Toro Road across the Project frontage and may require coordination with OCTA regarding a Master Plan of Arterial Highways (MPAH) Amendment for El Toro Road.

- **Option #2:** Widen El Toro Road to provide a 300-foot deceleration lane, with a 120-foot transition, for eastbound right-turning vehicles entering the Project site. Widen El Toro Road to provide a 200-foot eastbound acceleration lane, with a 120-foot transition, for northbound right-turning vehicles exiting the Project site onto eastbound El Toro Road. This site access option will continue to provide three (3) eastbound through lanes along El Toro Road across the Project frontage.

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LINSCOTT LAW & GREENSPAN engineers

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SOURCE: GOOGLE

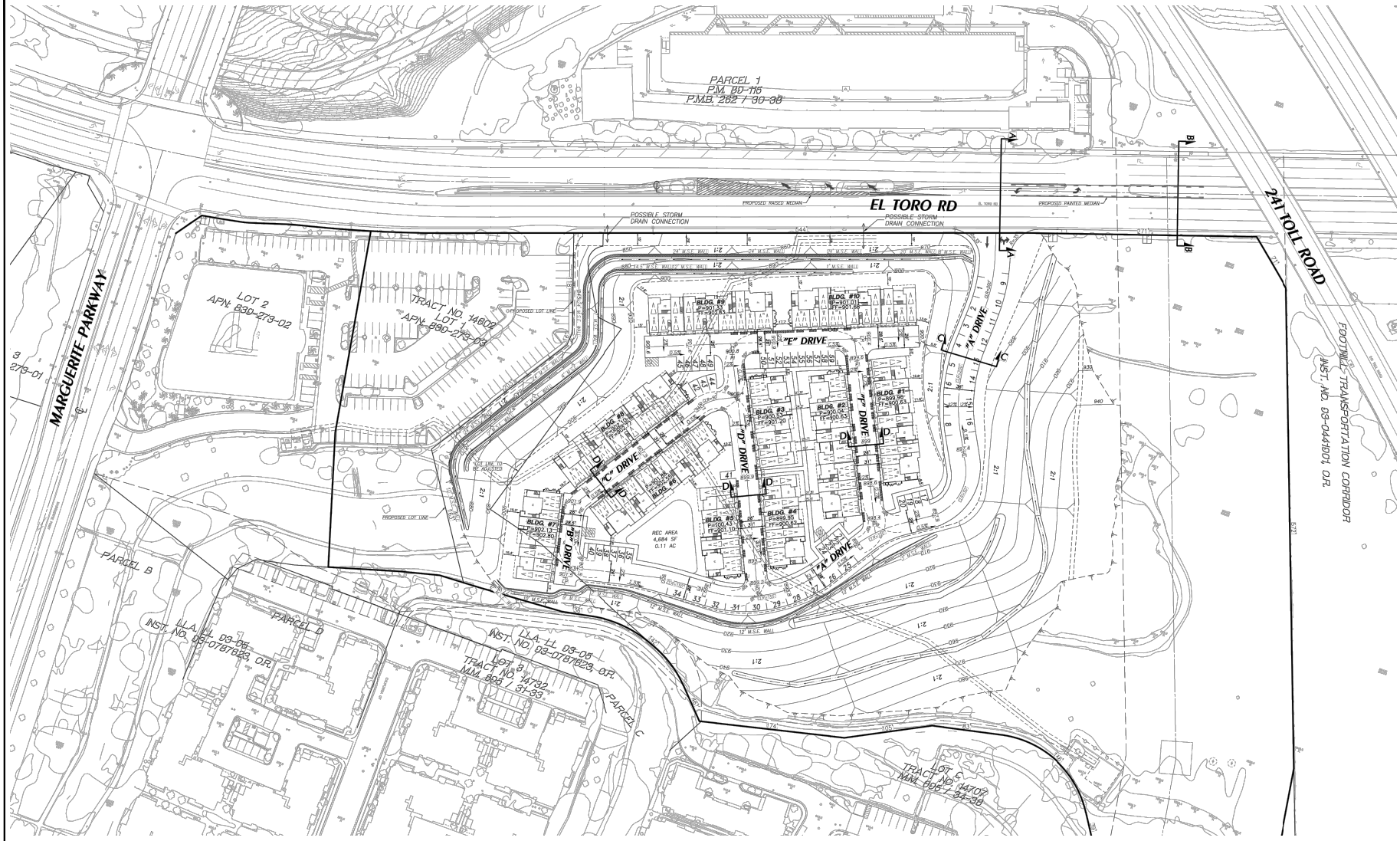
KEY

= PROJECT SITE

FIGURE 2-1

EXISTING SITE AERIAL

NUVO EL TORO RESIDENTIAL, MISSION VIEJO



SOURCE: HUNSAKER & ASSOCIATES

LINSCOTT LAW & GREENSPAN engineers

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FIGURE 2-2

PROPOSED SITE PLAN

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

3.0 ANALYSIS CONDITIONS AND METHODOLOGY

3.1 Existing Street Network

The Foothill Toll Road (SR-241) provides primary regional access to the proposed Project. The SR-241 Toll Road runs in the northwest-southeast direction, east of the Project site. The principal local network of streets serving the Project site consists of Portola Parkway, Santa Margarita Parkway, El Toro Road, Marguerite Parkway, and Glenn Ranch Road. The following discussion provides a brief synopsis of the key area streets.

Portola Parkway is a northwest-southeast roadway located west of the Project site. On-street parking is not permitted on either side of the roadway within the Project vicinity. Portola Parkway is a seven-lane divided roadway from El Toro Road to the SR-241 Ramps. The posted speed limit on Portola Parkway is 50 miles per hour (mph). South of El Toro Road, Portola Parkway becomes Santa Margarita Parkway.

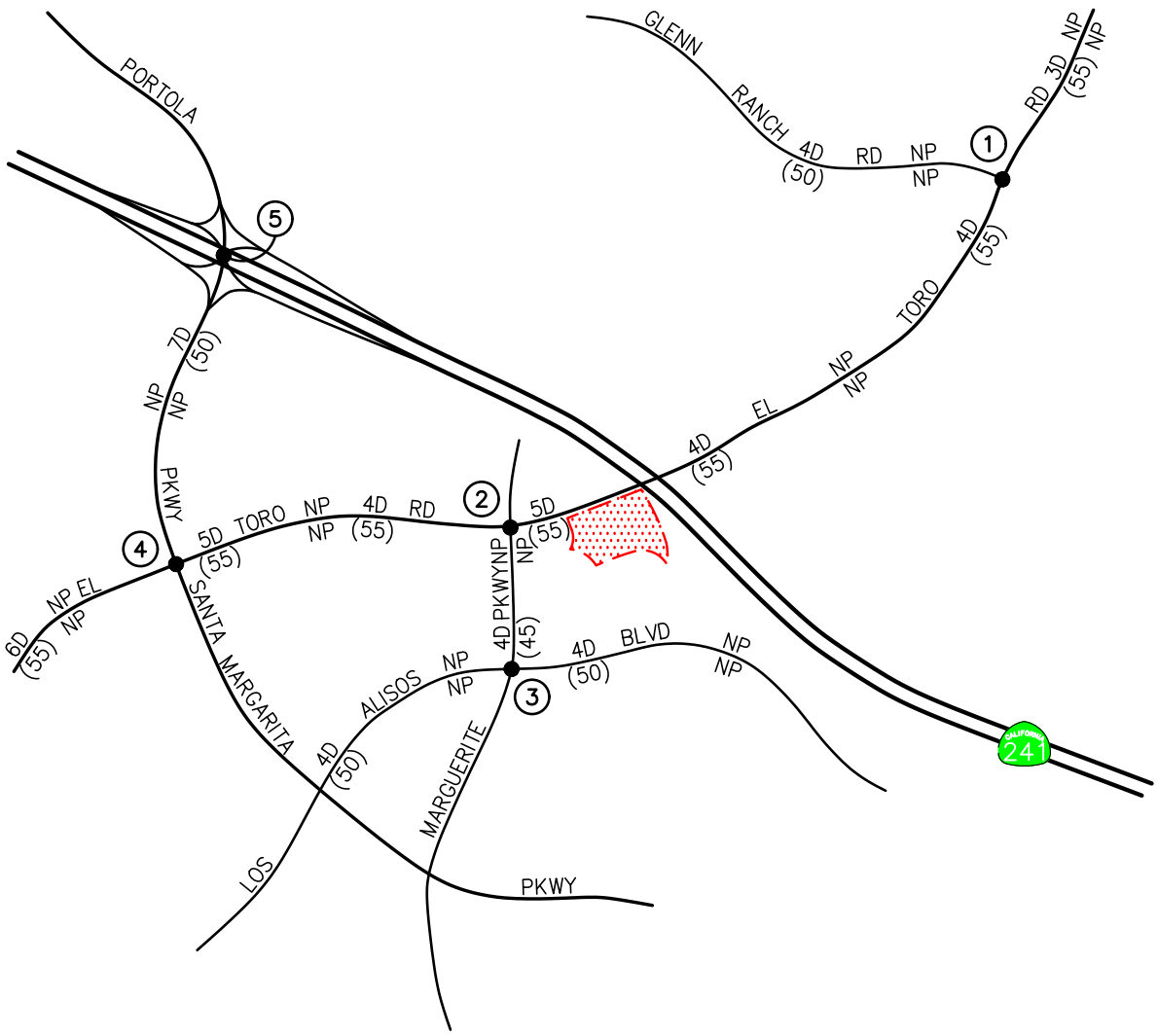
Santa Margarita Parkway is a northwest-southeast roadway located west and south of the Project site. On-street parking is not permitted on either side of the roadway within the Project vicinity. Santa Margarita Parkway is a six-lane divided roadway with a posted speed limit of 50 mph. North of El Toro Road, Santa Margarita Parkway becomes Portola Parkway.

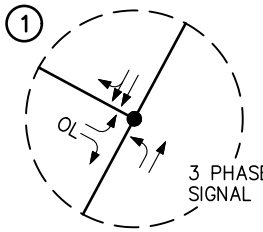
El Toro Road is a northeast-southwest roadway that borders the Project site on the north. On-street parking is not permitted on either side of the roadway within the Project vicinity. West of Portola Parkway, El Toro Road is a six-lane, divided roadway. Between Portola Parkway and Marguerite Parkway, El Toro Road is a five-lane, divided roadway that transitions to a four-lane, divided roadway just west of Marguerite Parkway. Between Marguerite Parkway and Painted Trails, El Toro Road is a five-lane, divided roadway that transitions to a four-lane, divided roadway just west of Painted Trails. Between Painted Trails and Wandering Trails, El Toro Road is a four-lane, divided roadway that transitions to a three-lane, divided roadway just west of Wandering Trails. Between Wandering Trails and Glenn Ranch Road, El Toro Road is a three-lane, divided roadway. North of Glenn Ranch Road, El Toro Road is a three-lane, divided roadway that transitions into a two-lane, undivided roadway north of Cielo Entrada. The posted speed limit on El Toro Road is 55 mph. Project access will be provided along El Toro Road via a full-access stop-controlled driveway.

Marguerite Parkway is a north-south roadway located west of the Project site. On-street parking is not permitted on either side of the roadway within the Project vicinity. Marguerite Parkway is a four-lane, divided roadway with a posted speed limit of 45 mph.

Glenn Ranch Road is an east-west roadway located northeast of the Project site. On-street parking is not permitted on either side of the roadway within the Project vicinity. Glenn Ranch Road is a four-lane, divided roadway with a posted speed limit of 50 mph.

Figure 3-1 presents an inventory of the existing roadway conditions within the study area evaluated in this report. The number of travel lanes and intersection controls for the key area study intersections and roadway segments are identified.





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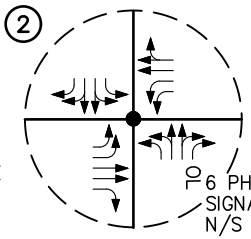
GLENN RANCH RD



SADDLEBACK CHURCH/
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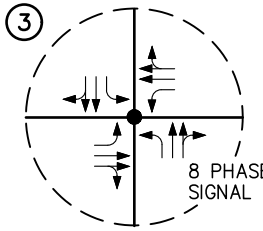

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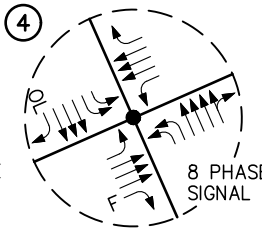

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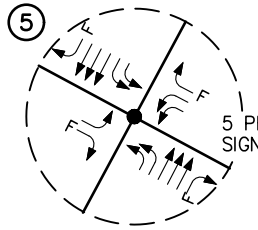
SANTA MARGARITA PKWY @
EL TORO RD



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KEY

- ← = APPROACH LANE ASSIGNMENT
- ● = TRAFFIC SIGNAL
- P = PARKING, NP = NO PARKING
- U = UNDIVIDED, D = DIVIDED
- 2 = NUMBER OF TRAVEL LANES
- (XX) = POSTED SPEED LIMIT (MPH)
- OL = OVERLAP, F = FREE-RIGHT
- = PROJECT SITE

FIGURE 3-1

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

3.2 Existing Public Transit

Orange County Transportation Authority (OCTA) operates several bus lines within the study area. A description of the transit services within the Project vicinity are as follows:

Orange County Transportation Authority (OCTA)

City Route 82:

- Route 82 provides service from Foothill Ranch to Rancho Santa Margarita; via Towne Centre & Alton, Mustang Run & Los Alisos, Santa Margarita & Los Alisos, and Plano Trabuco & Alas De Paz.
- Most notably, Route 82 provides service to Portola Plaza and Foothill Ranch Towne Centre.
- The route traverses the cities of Rancho Santa Margarita, Mission Viejo, and Lake Forest.
- During the AM and PM peak hour, Route 82 has approximate headways of 60 minutes in the eastbound and westbound directions.

City Route 85:

- Route 85 provides service from Mission Viejo to Laguna Niguel; via Niguel & Crown Valley, Saddleback College, Marguerite & La Paz, and Los Alisos & Mustang Run.
- Most notably, Route 85 provides service to Portola Plaza and Saddleback College.
- The route traverses the cities of Mission Viejo and Laguna Niguel.
- During the AM and PM peak hour, Route 85 has approximate headways of 60 minutes in the northbound and southbound directions.

City Route 89:

- Route 89 provides service from Mission Viejo to Laguna Beach; via Laguna Beach Bus Station, El Toro & Moulton, Laguna Hills Transportation Center, El Toro & Jeronimo, and Los Alisos & Mustang Run.
- Most notably, Route 89 provides service to Portola Plaza, Laguna Hills Transportation Center/Park-And-Ride, and Laguna Beach Bus Station.
- The route traverses the cities of Mission Viejo, Lake Forest, Laguna Woods, Laguna Hills, and Laguna Beach.
- During the AM and PM peak hour, Route 89 has approximate headways of 30 minutes in the northbound and southbound directions.

City Route 206:

- Route 206 provides Express service from Santa Ana to Lake Forest; via Bristol & Civic Center, Santa Ana & Santiago, Barranca & Ada, Rockfield & Lake Forest, Dimension & Commercentre, and Icon & Ellipse.
- Most notably, Route 206 provides service to Orange County High School of the Arts, Santa Ana Civic Center, County Courthouse, Orange County Central Jail, Ronald Reagan Federal Courthouse, Santa Ana Regional Transportation Center, Irvine Station, Irvine Spectrum, and Foothill Rach Marketplace and Towne Centre.

- The route traverses the cities of Santa Ana, Irvine, Lake Forest, Foothill Ranch, and Portola Hills.
- During the AM and PM peak hour, Route 206 provides limited service with approximate headways of 40 minutes in the northbound and southbound directions.

Appendix B contains the most current public transit route schedules and maps for the aforementioned bus routes.

3.3 Pedestrian/Bicycle Trails

Orange County Parks manages nearly 60,000 acres of parks, historical and coastal facilities, and open space for the County of Orange as part of OC Community Resources. Parks that are located in the vicinity of the Project site include Limestone Canyon Park, Whiting Ranch Wilderness Park and O'Neill Regional Park. The following is a brief description of the trails that are in close proximity to the proposed Project:

- **Aliso Creek Bikeway** is an 18.4-mile cycling trail that extends from Wood-Aliso Park in Laguna Niguel to Whiting Ranch Wilderness Park. This trail is used primarily for cycling. Located on the opposite side of El Toro Road, access to this trail will be available via a path located just west of Marguerite Parkway (approximately 0.3 miles west of the Project site).

Appendix B also contains the most current Bicycle and Pedestrian Trails Maps.

Pedestrian connection to the surrounding commercial and residential developments is provided via existing sidewalks along the Project frontage on El Toro Road as well as along Marguerite Parkway, Los Alisos Boulevard, Santa Margarita Parkway, and Portola Parkway in the vicinity of the Project site.

3.4 Existing Traffic Volumes

Due to the State of California "Stay at Home" order as a result of the COVID-19 Coronavirus Pandemic, historical counts were collected at the five (5) key study intersections and the six (6) key roadway segments evaluated in this report. Specifically, the traffic counts for key study intersections #1, #2, #4, and #5 were conducted in Year 2018, while the traffic counts for key study intersection #3 were conducted in Year 2019. These Year 2018 and Year 2019 traffic counts were factored up by the City-approved growth factor of 1.0% per year (i.e. 2.0% total growth for the Year 2018 counts and 1.0% total growth for the Year 2019 counts) to reflect current Year 2020 existing baseline traffic conditions.

Similarly, historical counts were collected for the six (6) key roadway segments. Specifically, the traffic counts for key roadway segment E were conducted in Year 2017, the traffic counts for key roadway segment D were conducted in Year 2018, and the remaining key roadway segments were collected in Year 2020 (i.e. segments A, B, C, and F). The Year 2017 and Year 2018 traffic counts were factored up by the City-approved growth factor of 1.0% per year (i.e. 3.0% total growth for the

Year 2017 counts, 2.0% total growth for the Year 2018 counts, and no growth for the Year 2020 counts) to reflect current Year 2020 existing baseline traffic conditions.

Appendix C contains the daily, AM and PM peak hour historical traffic count data for the five (5) key study intersections and six (6) key roadway segments.

Figures 3-2 and ***3-3*** present the existing AM and PM peak hour traffic volumes, respectively, for the five (5) key study intersections. *Figure 3-3* also presents the existing daily traffic volumes for the six (6) key study roadway segments.

3.5 Level Of Service (LOS) Analysis Methodologies

AM and PM peak hour operating conditions for the five (5) key study intersections and the proposed project driveway were evaluated using the *Intersection Capacity Utilization* (ICU) methodology for signalized intersections and the methodology outlined in the *Highway Capacity Manual* (HCM) for unsignalized intersections.

3.5.1 *Intersection Capacity Utilization (ICU) Method of Analysis (Signalized Intersections)*

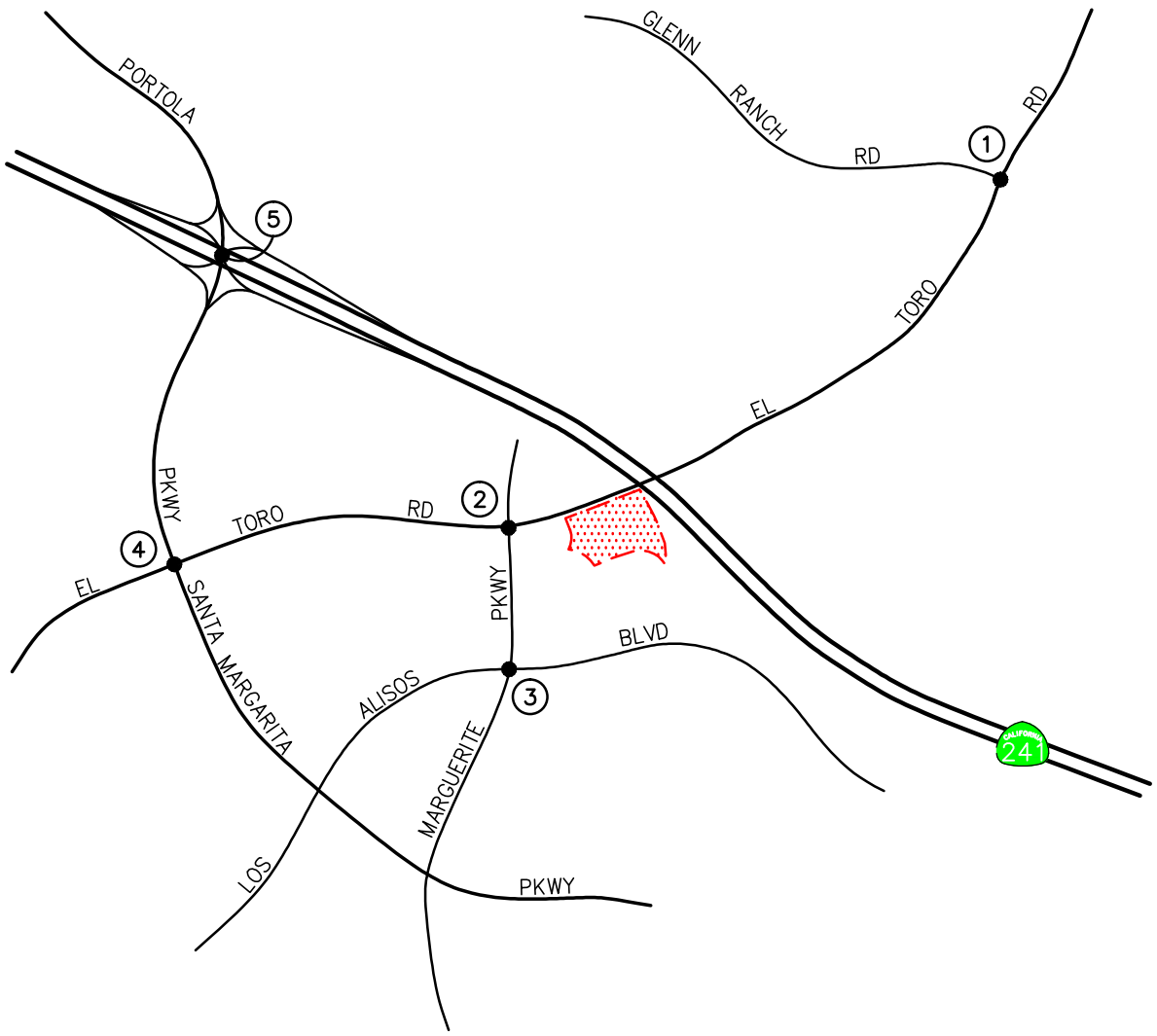
Per the requirements of the City of Mission Viejo and the City of Lake Forest, AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the *Intersection Capacity Utilization (ICU)* method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements.

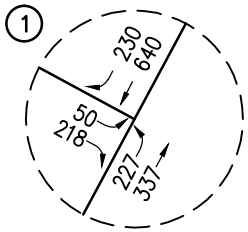
The ICU numerical value represents the percent signal (green) time and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing. For both the City of Mission Viejo and the City of Lake Forest, the ICU calculations use a lane capacity of 1,700 vehicles per hour (vph) for through and all turn lanes. A clearance adjustment factor of 0.05 was added to each Level of Service calculation.

The ICU value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. The six qualitative categories of Level of Service have been defined along with the corresponding ICU value range and are shown in ***Table 3-1***.

3.5.2 *Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)*

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore a greater delay.





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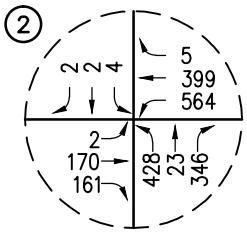

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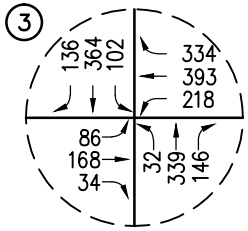
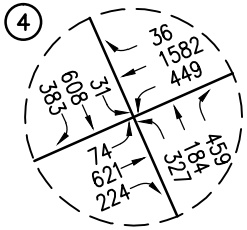
MARGUERITE PKWY @
EL TORO RD



MARGUERITE PKWY @
LOS ALISOS BLVD



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SANTA MARGARITA PKWY @
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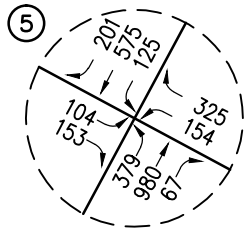

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KEY

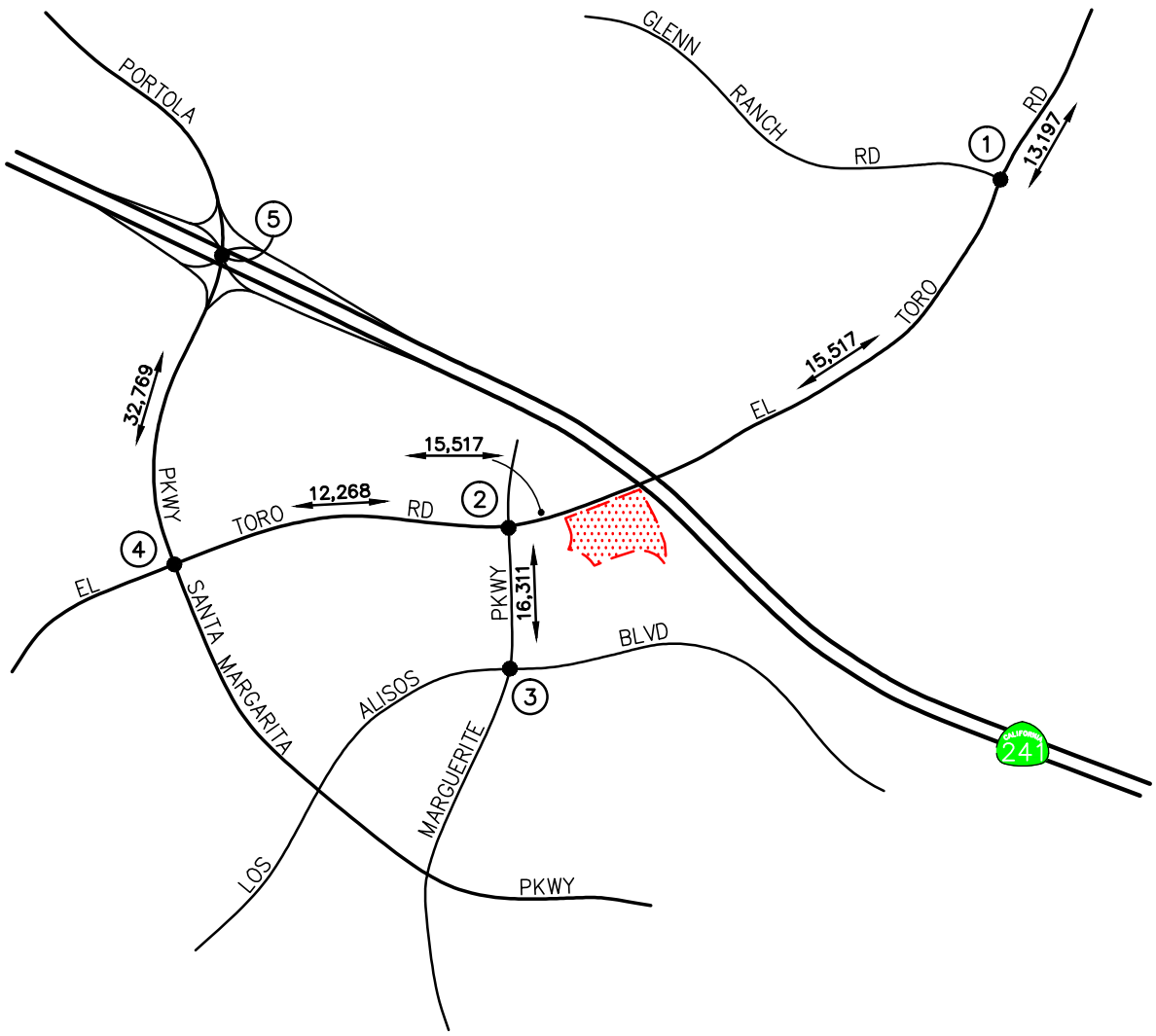
(#) = STUDY INTERSECTION

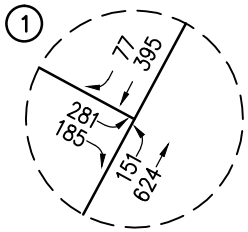
= PROJECT SITE

FIGURE 3-2

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO





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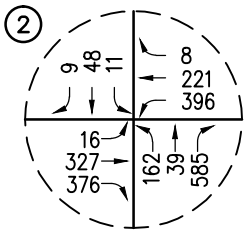

SADDLEBACK CHURCH/
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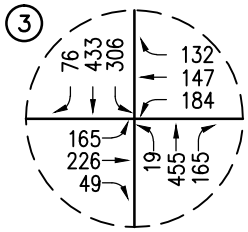
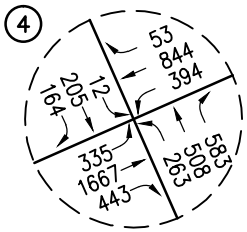
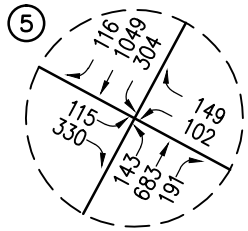
EL TORO RD



MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



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KEY

(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES
= PROJECT SITE

FIGURE 3-3

EXISTING PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

3.5.2.1 Two-Way Stop-Controlled Intersections

Two-way stop-controlled intersections are comprised of a major street, which is uncontrolled, and a minor street, which is controlled by stop signs. Level of service for a two-way stop-controlled intersection is determined by the computed or measured control delay. The control delay by movement, by approach, and for the intersection as a whole is estimated by the computed capacity for each movement. LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. The worst side street approach delay is reported. LOS is not defined for the intersection as a whole or for major-street approaches, as it is assumed that major-street through vehicles experience zero delay. The HCM control delay value range for two-way stop-controlled intersections is shown in ***Table 3-2***.

3.5.2.2 All-Way Stop-Controlled Intersections

All-way stop-controlled intersections require every vehicle to stop at the intersection before proceeding. Because each driver must stop, the decision to proceed into the intersection is a function of traffic conditions on the other approaches. The time between subsequent vehicle departures depends on the degree of conflict that results between the vehicles and vehicles on the other approaches. This methodology determines the control delay for each lane on the approach, computes a weighted average for the whole approach, and computes a weighted average for the intersection as a whole. Level of service (LOS) at the approach and intersection levels is based solely on control delay. The HCM control delay value range for all-way stop-controlled intersections is shown in *Table 3-2*.

3.5.3 *Volume to Capacity (V/C) Ratio Method of Analysis (Roadway Segments)*

In conformance with City of Mission Viejo and City of Lake Forest requirements, daily operating conditions for the key study roadway links have been investigated according to the Volume to Capacity (V/C) ratio of each roadway segment. The V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic volumes and the capacity based on the City's classification of each roadway. The roadway segment daily capacity of each street classification according to the *Orange County Master Plan of Arterial Highways (MPAH)* is presented in ***Table 3-3.*** The six qualitative categories of Level of Service have been defined along with the corresponding Volume to Capacity (V/C) value range and are shown in ***Table 3-4***.

3.6 Impact Criteria and Thresholds

3.6.1 *City of Mission Viejo*

Impacts to local and regional transportation systems located in the City of Mission Viejo are considered significant if:

<u>Intersections:</u>

- An unacceptable peak hour Level of Service (LOS) at any of the key intersections is projected. The City of Mission Viejo considers LOS D to be the minimum acceptable condition that should be maintained during the AM and PM peak hours for all intersections; and

- The Project increases traffic demand at the study intersection by 1% of capacity (ICU increase ≥ 0.010), causing or worsening LOS E or LOS F (ICU > 0.900).

Roadway Segments:

- An unacceptable daily Level of Service (LOS) at any of the key roadway segments is projected. LOS D (V/C not to exceed 0.90) is the minimum performance standard that has been adopted for the study area circulation system by the City of Mission Viejo which adheres to the Orange County Highway Design Manual; and

- The project increases traffic demand at the roadway segment by 1% of capacity (V/C increase ≥ 0.010), causing or worsening LOS E or LOS F (V/C > 0.900).

3.6.2 *City of Lake Forest Locations*

Impacts to local and regional transportation systems located in the City of Lake Forest are considered significant if:

Intersections:

- An unacceptable peak hour Level of Service (LOS) at any of the key intersections is projected. The City of Lake Forest considers LOS D to be the minimum acceptable condition that should be maintained during the AM and PM peak hours for all intersections; and

- The Project increases traffic demand at the study intersection by 1% of capacity (ICU increase ≥ 0.010), causing or worsening LOS E or LOS F (ICU > 0.900).

Roadway Segments:

- An unacceptable daily Level of Service (LOS) at any of the key roadway segments is projected. LOS D (V/C not to exceed 0.90) is the minimum performance standard that has been adopted for the study area circulation system by the City of Lake Forest which adheres to the Orange County Highway Design Manual; and

- The project increases traffic demand at the roadway segment by 1% of capacity (V/C increase ≥ 0.010), causing or worsening LOS E or LOS F (V/C > 0.900).

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (ICU METHODOLOGY)[1]

Level of Service (LOS)	Intersection Capacity Utilization Value (V/C)	Level of Service Description
A	≤ 0.60	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.61 – 0.70	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.71 – 0.80	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.81 – 0.90	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.91 – 1.00	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.00	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Potentially very long delays with continuously increasing queue lengths.

[1] Source: *Transportation Research Board Circular 212 – Interim Materials on Highway Capacity*.

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM 6 METHODOLOGY)[2,3]

Level of Service (LOS)	Highway Capacity Manual Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

2 Source: *Highway Capacity Manual 6*, Chapter 20: Two-Way Stop-Controlled Intersections. The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

3 Source: *Highway Capacity Manual 6*, Chapter 21: All-Way Stop-Controlled Intersections. For approaches and intersection-wide assessment, LOS is defined solely by control delay.

TABLE 3-3
DAILY ROADWAY SEGMENT CAPACITIES[4]

Type of Arterial	Lane Configuration	LOS E Capacity (VPD)
Principal	8-Lanes Divided	75,000
Major	6-Lanes Divided	56,300
Primary	4-Lanes Divided	37,500
Secondary	4-Lanes Undivided	25,000
Collector	2-Lanes Undivided	12,500

Notes:

- VPD = Vehicles per day

[4] Source: *Guidance for Administration of the Orange County Master Plan of Arterial Highways, dated August 14, 2017.*

TABLE 3-4
LEVEL OF SERVICE CRITERIA FOR ROADWAY SEGMENTS (V/C METHODOLOGY)[5]

Level of Service (LOS)	Volume to Capacity Ratio (V/C)	Level of Service Description
A	≤ 0.600	**EXCELLENT**. Describes primarily free flow operations at average travel speeds, usually about 90% of the free flow speed for the arterial class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.
B	0.601 – 0.700	**VERY GOOD**. Represents reasonably unimpeded operations at average travel speeds, usually about 70% of the free flow speed for the arterial class. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.
C	0.701 – 0.800	**GOOD**. Represents stable conditions; however, ability to maneuver and change lanes in mid-block location may be more restricted than in LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds of about 50% of the average free flow speed for the arterial class. Motorists will experience appreciable tension while driving.
D	0.801 – 0.900	**FAIR**. Borders on a range in which small increases in flow may cause substantial increases in approach delay and, hence, decreases in arterial speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40% of free flow speed.
E	0.901 – 1.000	**POOR**. Characterized by significant approach delays and average travel speeds of one-third the free flow speed or lower. Such operations are caused by some combination of adverse progression, high signal density, extensive queuing at critical intersections, and inappropriate signal timing.
F	> 1.000	**FAILURE**. Characterizes arterial flow at extremely low speeds below one-third to one-quarter of the free flow speed. Intersection congestion is likely at critical signalized locations, with resultant high approach delays. Adverse progression is frequently a contributor to this condition.

Note:

LOS F applies whenever the flow rate exceeds the segment capacity.

[5] Source: *Transportation Research Board 2000.*

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations and/or rates to the Project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway segments and intersection turning movements throughout the study area.

With the forecasting process complete and Project traffic assignments developed, the impact of the Project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast Project traffic. If necessary, the need for site-specific and/or cumulative local area traffic improvements can then be evaluated.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Trip Generation Forecast

Trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation rates used in the traffic forecasting procedure are found in the Tenth Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2017].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project and presents the forecast daily and peak hour project traffic volumes for a "typical" weekday. The trip generation potential for the proposed Project was forecast using ITE Land Use Code 220: Multifamily Housing Low-Rise trip rates. As shown in *Table 5-1*, the proposed Project is expected to generate 666 daily trips (one half arriving and one half departing), with 42 trips (10 inbound, 32 outbound) produced in the AM peak hour and 51 trips (32 inbound, 19 outbound) produced in the PM peak hour on a "typical" weekday.

5.2 Project Trip Distribution and Assignment

Figure 5-1 illustrates the general directional traffic distribution pattern for the proposed Project. Project traffic volumes both entering and exiting the Project site have been distributed and assigned to the adjacent street system based on the following considerations:

- directional flows on the freeways in the immediate vicinity of the Project site (i.e. SR-241 Freeway),
- the site's proximity to major traffic carriers (i.e. El Toro Road),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- ingress/egress availability at the Project site, and
- input from City of Mission Viejo staff.

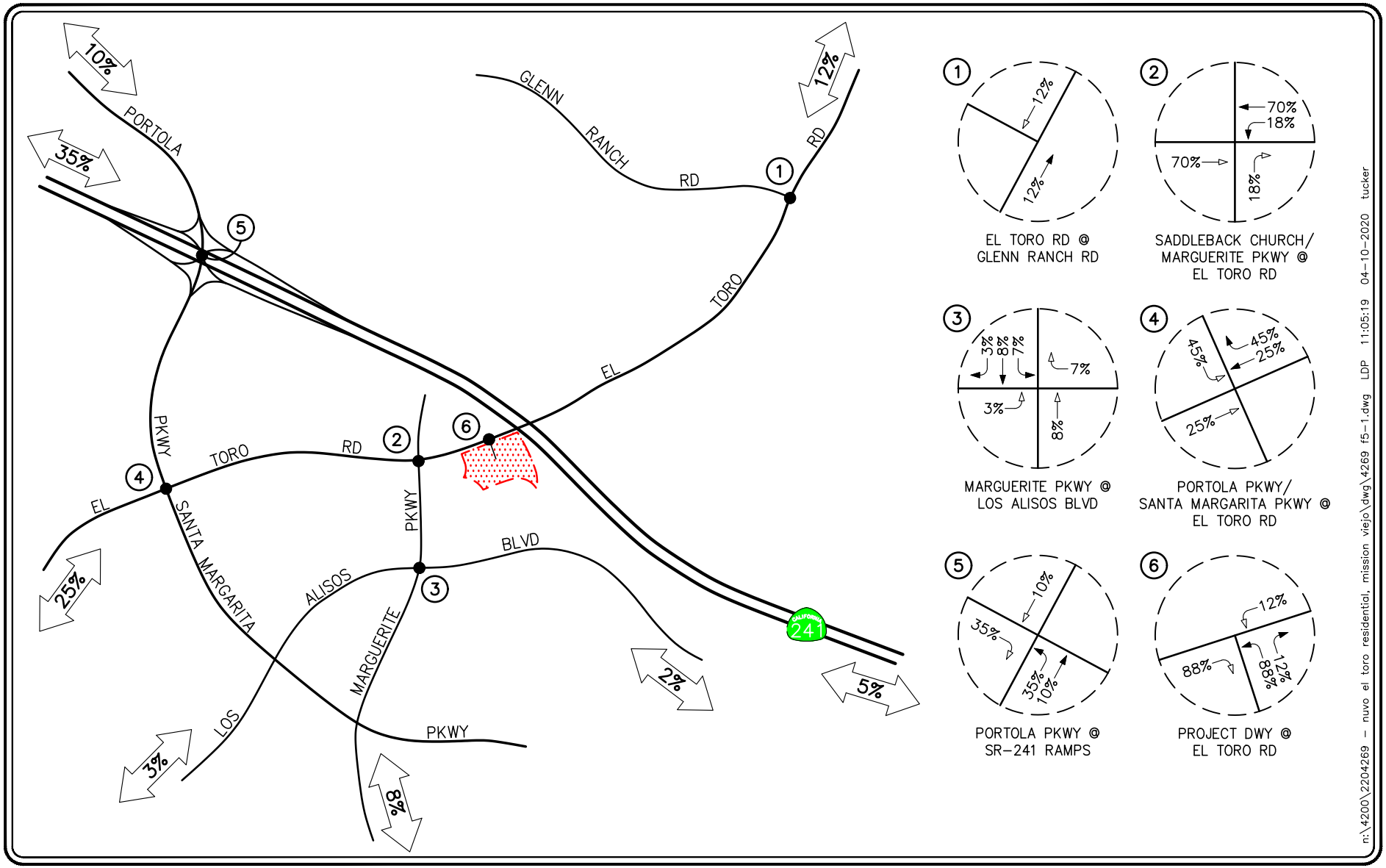
The anticipated AM and PM peak hour Project traffic volumes associated with the Project are presented in ***Figures 5-2*** and ***5-3***, respectively. *Figure 5-3* also presents the daily Project traffic volumes. The traffic volume assignments presented in *Figures 5-2* and *5-3* reflect the traffic distribution characteristics shown in *Figure 5-1* and the traffic generation forecast presented in *Table 5-1*.

TABLE 5-1
PROJECT TRAFFIC GENERATION RATES AND FORECAST[6]

ITE Land Use Code / Project Description	Daily	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Factors:							
▪ 220: Multifamily Housing Low-Rise (TE/DU)	7.32	23%	77%	0.46	63%	37%	0.56
Proposed Project Trip Generation Forecast:							
▪ Nuvo El Toro Residential Project (91 DU)	666	10	32	42	32	19	51

Notes:
- TE/DU = Trip end per dwelling unit

6 Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).



EL TORO RD @ GLENN RANCH RD

SADDLEBACK CHURCH/ MARGUERITE PKWY @ EL TORO RD

MARGUERITE PKWY @ LOS ALISOS BLVD

PORTOLA PKWY/ SANTA MARGARITA PKWY @ EL TORO RD

PORTOLA PKWY @ SR-241 RAMPS

PROJECT DWY @ EL TORO RD

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTERSECTION

⇦ = INBOUND PERCENTAGE

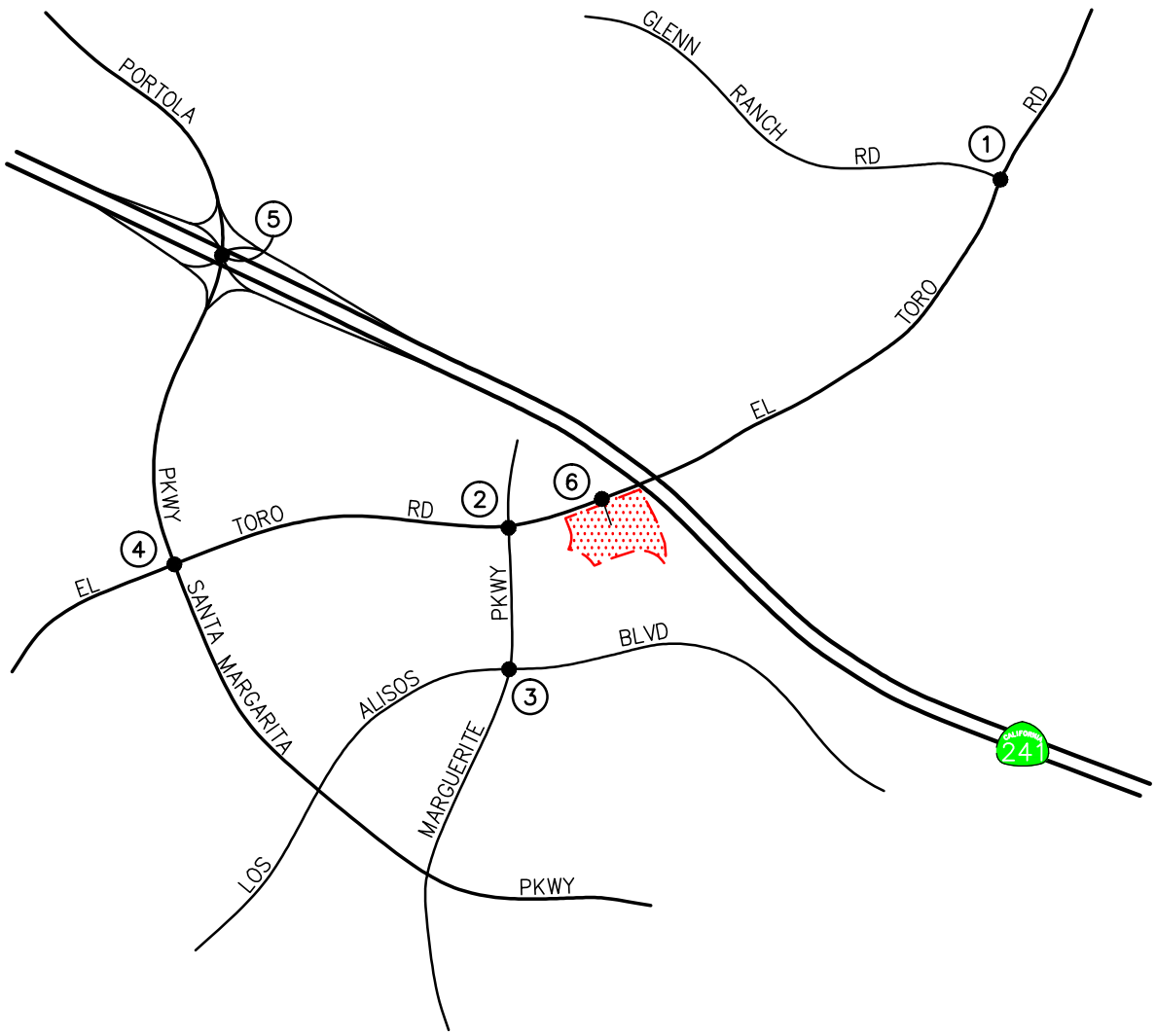
⬅ = OUTBOUND PERCENTAGE

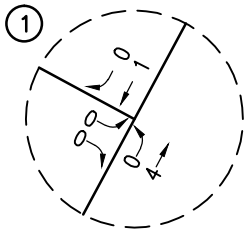
▒ = PROJECT SITE

FIGURE 5-1

PROJECT TRAFFIC DISTRIBUTION PATTERN

NUVO EL TORO RESIDENTIAL, MISSION VIEJO





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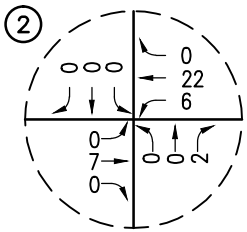
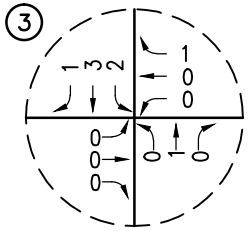
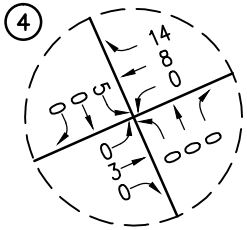
GLENN RANCH RD



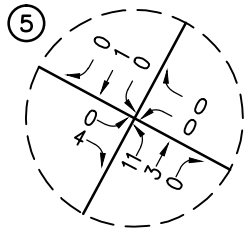
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



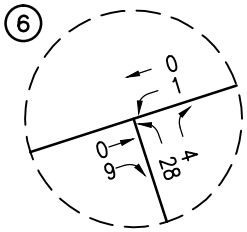
MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS



PROJECT DWY @
EL TORO RD

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KEY

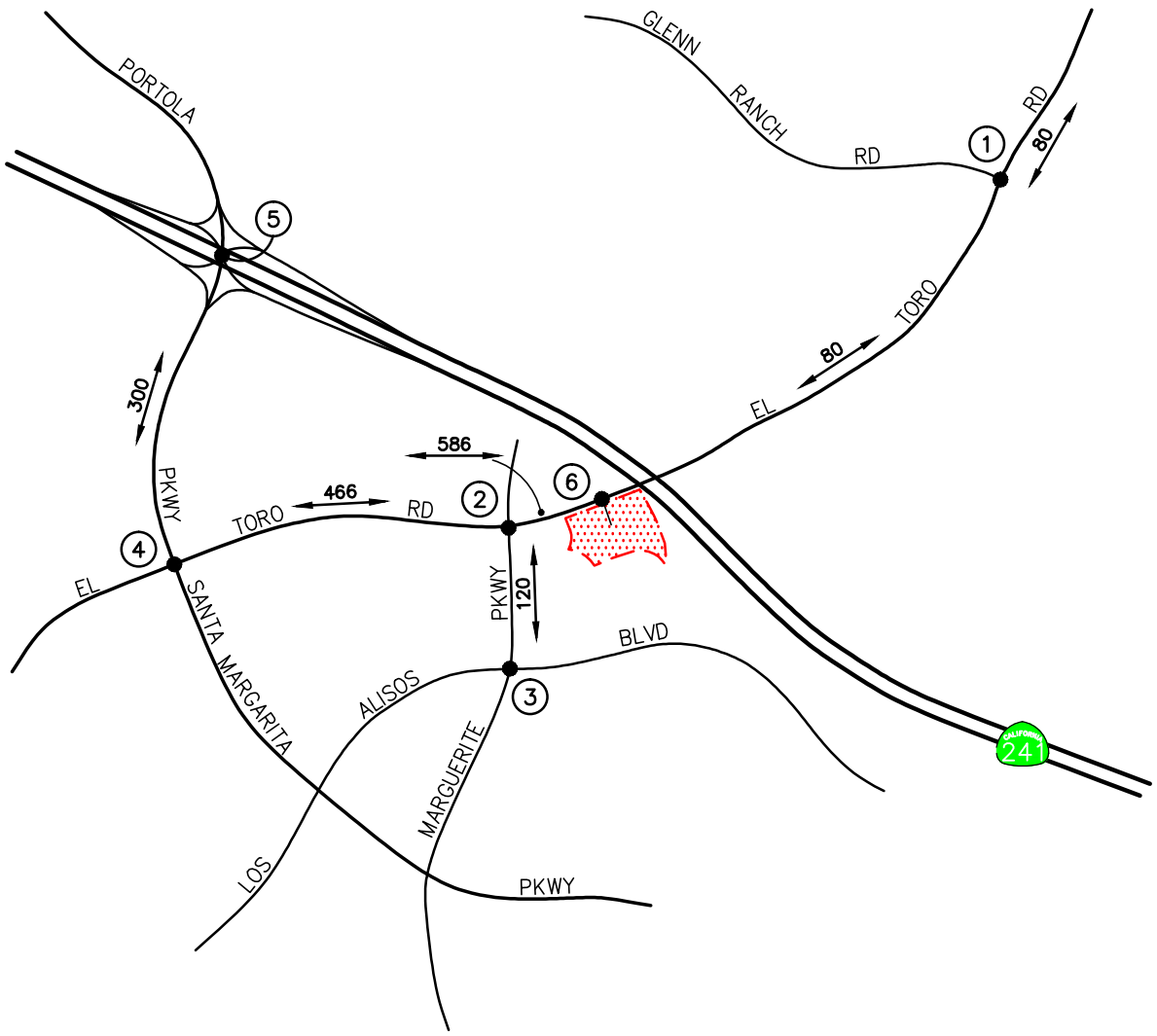
(#) = STUDY INTERSECTION

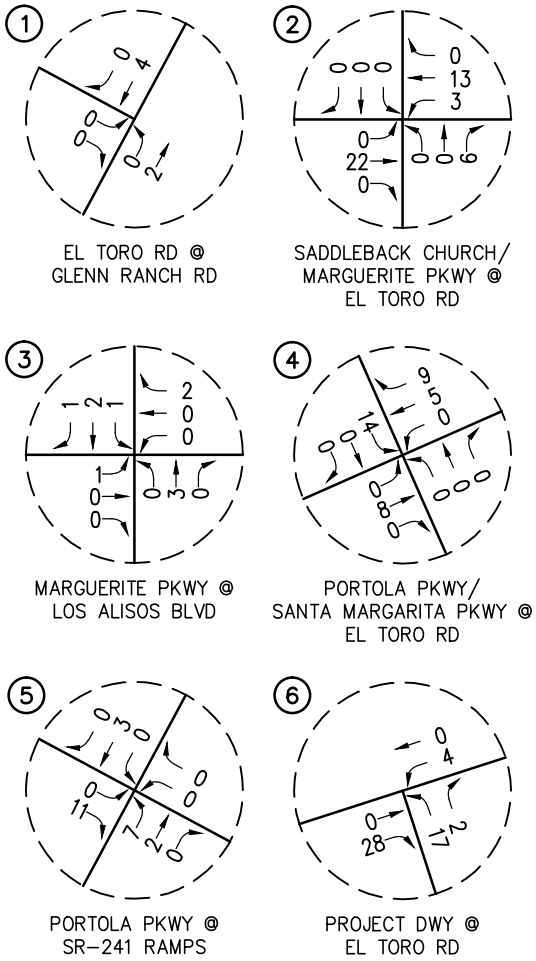
= PROJECT SITE

FIGURE 5-2

AM PEAK HOUR PROJECT TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO





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LINSCOTT LAW & GREENSPAN engineers

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KEY

(#) = STUDY INTERSECTION

XX,XXX = DAILY TRAFFIC VOLUMES

= PROJECT SITE

FIGURE 5-3

PM PEAK HOUR AND DAILY PROJECT TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Existing With Project Traffic Volumes

The estimates of Project-generated traffic volumes were added to the Existing traffic conditions to develop traffic projections for Existing With Project traffic conditions. The anticipated Existing With Project AM and PM peak hour traffic volumes at the five (5) key study intersections are presented in ***Figures 6-1*** and ***6-2***, respectively. *Figure 6-2* also presents the Existing With Project daily traffic volumes.

6.2 Year 2023 Without Project Traffic Volumes

6.2.1 *Ambient Growth Traffic*

Near-term horizon year, traffic growth estimates have been calculated using an ambient growth factor. The ambient growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The application of the one percent (1%) annual growth rate to baseline Year 2020 traffic volumes results in a three percent (3%) growth in existing baseline volumes at the five (5) key study intersections and six (6) key roadway segments to horizon Year 2023.

6.2.2 *Cumulative Projects Traffic*

In order to make a realistic estimate of future on-street conditions prior to implementation of the proposed Project, the status of other known development projects (cumulative projects) in the vicinity of the proposed Project has been researched at the County of Orange and the Cities of Mission Viejo, Lake Forest, and Rancho Santa Margarita. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development. Based on our research, there are two (2) cumulative projects in the City of Mission Viejo, two (2) cumulative projects in the County of Orange, and two (2) cumulative projects in the City of Lake Forest within the vicinity of the Project site. There were no cumulative projects identified by the City of Rancho Santa Margarita in the vicinity of the Project site. These six (6) planned and/or approved cumulative projects have been included as part of the cumulative background setting.

Table 6-1 provides a brief description and location for each of the six (6) cumulative projects. ***Figure 6-3*** graphically illustrates the location of the six (6) cumulative projects. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections and key roadway segments.

Table 6-2 presents the development totals and resultant trip generation for the six (6) cumulative projects. As shown in *Table 6-2*, the cumulative projects are forecast to generate a total of 21,439 daily trips, with 2,069 trips (734 inbound, 1,335 outbound) forecast during the AM peak hour and 2,196 trips (1,335 inbound, 861 outbound) forecast during the PM peak hour.

The AM and PM peak hour traffic volumes associated with the six (6) cumulative projects are presented in ***Figures 6-4*** and ***6-5***, respectively. *Figure 6-5* also presents the daily cumulative project traffic volumes.

Figures 6-6 and ***6-7*** present Year 2023 Without Project AM and PM peak hour traffic volumes at the five (5) key study intersections, respectively. *Figure 6-7* also presents the Year 2023 Without Project daily traffic volumes for the six (6) key study roadway segments. It should be noted that the Year 2023 Without Project traffic volumes include ambient traffic growth as well as the traffic from the six (6) cumulative projects.

It should again be emphasized that because this traffic impact analysis utilizes both an ambient growth factor along with a list of cumulative projects approach to analyze near-term impacts, this traffic impact analysis is highly conservative and would tend to overstate cumulative traffic impacts.

6.3 Year 2023 With Project Traffic Volumes

The estimates of Project-generated traffic volumes were added to the Year 2023 Without Project traffic conditions to develop traffic projections for the Year 2023 With Project traffic conditions. The anticipated Year 2023 With Project traffic conditions AM and PM peak hour traffic volumes at the five (5) key study intersections are presented in ***Figures 6-8*** and ***6-9***, respectively. *Figure 6-9* also presents the Year 2023 With Project daily traffic volumes for the six (6) key study roadway segments.

6.4 Long-Term Buildout (Year 2045) Traffic Conditions

As coordinated with City of Mission Viejo staff, the Year 2045 traffic volume forecasts for this traffic study were developed via the utilization of the OCTAM 5.0 Year 2045 traffic model provided by OCTA. Specifically, daily, AM peak period and PM peak period link traffic volumes were provided by OCTA for the existing base year (i.e. Year 2016) and for the future buildout year (i.e. Year 2045). The AM peak period corresponds to a three-hour morning commute period while the PM peak period corresponds to a four-hour afternoon commute period. Using the peak period model runs and the OCTA approved peak hour factors (i.e. AM = 0.3566 and PM = 0.2662), the one-hour peak hour link traffic volumes were determined. These future year 2045 link traffic volumes were post-processed based on the relationship of the base year validation model run output to the base year ground traffic counts resulting in Year 2045 without project daily traffic volumes for the key roadway segments and AM peak hour/PM peak hour turning movements for the key study intersections. Copies of the model post-processing worksheets are contained in ***Appendix D***.

6.4.1 *Long-Term Buildout (Year 2045) Traffic Volumes*

Figures 6-10 and ***6-11*** present the AM and PM peak hour Year 2045 Without Project traffic volumes at the five (5) key study intersections, respectively. *Figure 6-11* also presents the daily Year 2045 Without Project traffic volumes. ***Figures 6-12*** and ***6-13*** illustrate the forecast Year 2045 Buildout AM and PM peak hour traffic volumes, with the inclusion of the trips generated by the proposed Project, respectively. *Figure 6-13* also presents the daily Year 2045 With Project traffic volumes.

TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[7]

No.	Description	Location/Address	Size
City of Mission Viejo			
1.	City Lane Townhomes	NWC of Los Alisos Boulevard and SR-241	60 DU Multifamily (Low Rise)
2.	Mission Foothills Shopping Center	NWC of Los Alisos Boulevard and SR-241	44 DU Single-Family Homes 61 DU Multifamily (Low Rise)
County of Orange			
3.	Saddleback Crest	North of Santiago Canyon Road, west of Ridgeline Road	65 DU Single-Family Homes
4.	Red Rock Chateau	17521 E Santiago Canyon Road	200 Guest Wedding Venue
City of Lake Forest			
5.	Nakase Property	South of Bake Parkway, west of Rancho Parkway	675 DU Single-Family Homes 101 DU Senior Affordable Homes 1,000 Student Elementary School
6.	Portola Center Project	Generally located around Saddleback Ranch Road at Glenn Ranch Road	613 DU Single-Family Homes 260 DU Multifamily 57 DU Affordable Multifamily 10,000 SF Commercial

[7] Source: City of Mission Viejo, City of Lake Forest, and County of Orange staff.

TABLE 6-2
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[8]

No.	Cumulative Project Description	Daily Two-Way	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
1.	City Lane Townhomes[9]	439	6	22	28	21	13	34
2.	Mission Foothills Shopping Center[10]	862	15	46	61	49	29	78
3.	Saddleback Crest[11]	780	16	42	58	49	29	78
4.	Red Rock Chateau[12]	174	0	0	0	67	10	77
5.	Nakase Property[13]	8,789	503	699	1,202	521	358	879
6.	Portola Center Project[14]	10,395	194	526	720	628	422	1,050
Total Cumulative Projects Trip Generation Forecast		**21,439**	**734**	**1,335**	**2,069**	**1,335**	**861**	**2,196**

8 Unless otherwise noted, Source: *Trip Generation, 10th Editions*, Institute of Transportation Engineers (ITE) [Washington, D.C. (2017)].

9 Source: *City Lane Townhomes Traffic Impact Analysis Addendum*, dated August 23, 2019, prepared by Environment, Planning, Development Solutions, Inc.

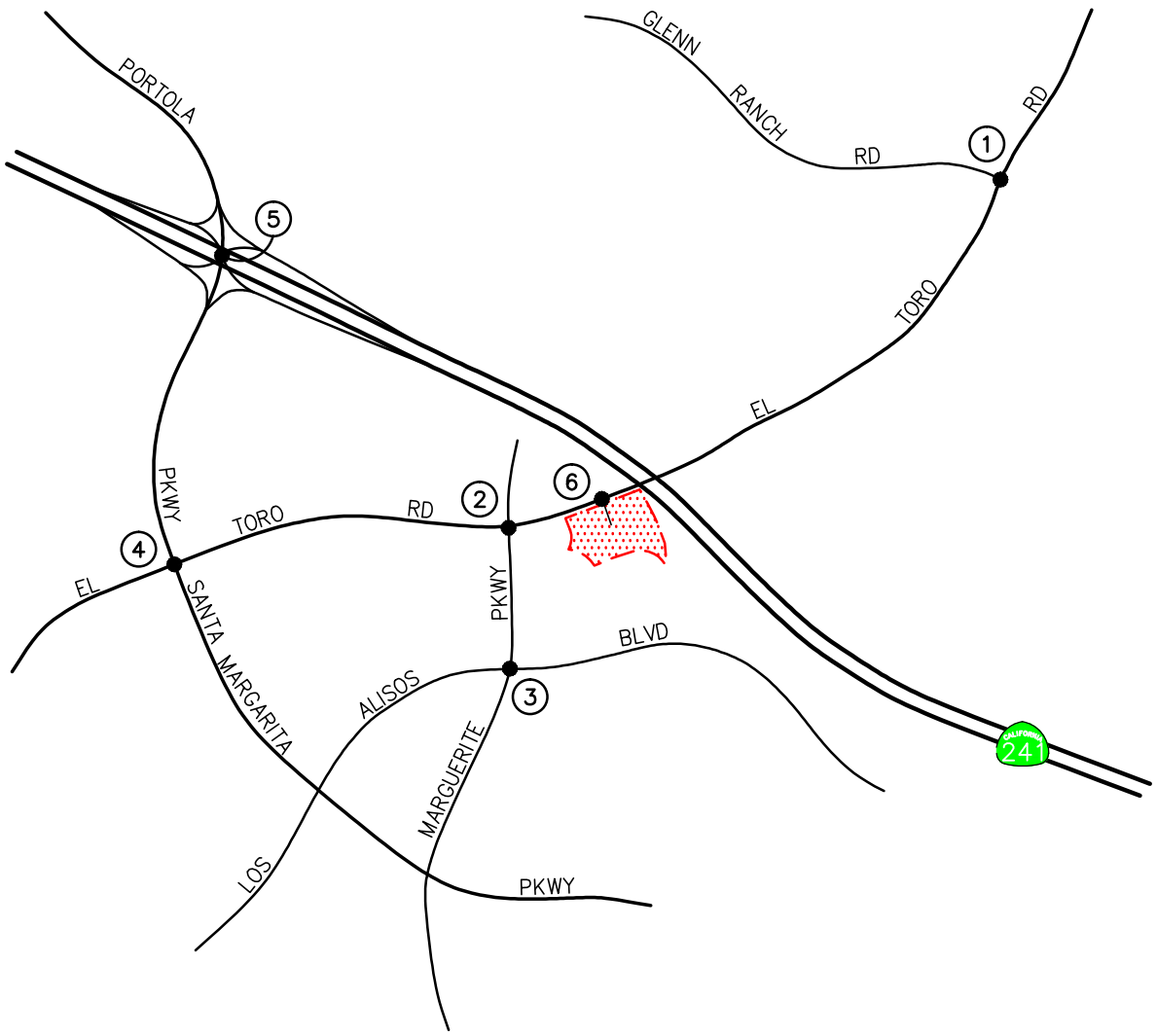
10 Source: *Mission Foothills Shopping Center – Trip Generation Analysis*, dated December 21, 2018, prepared by LSA.

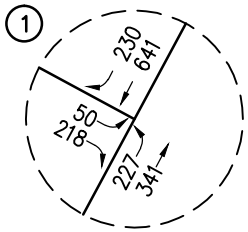
11 Source: *Saddleback Crest Traffic Impact Study*, dated January 18, 2012, prepared by RK Engineering Group, Inc.

12 Source: *Red Rock Chateau Traffic Impact Analysis*, dated August 9, 2011, prepared by DKS Associates.

13 Source: *Nakase Property Traffic Impact Analysis*, dated May 16, 2018, prepared by Urban Crossroads.

14 Source: *Portola Center Project Traffic Impact Study*, dated January 2013, prepared by Wilson & Company.





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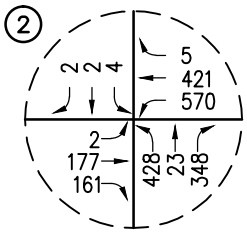
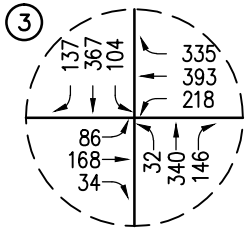
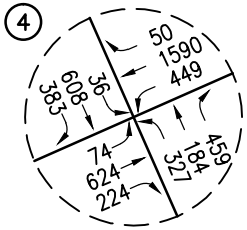
GLENN RANCH RD



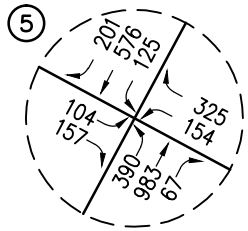
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



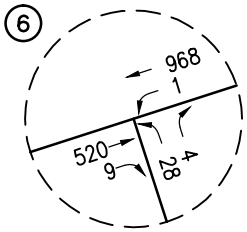
MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS



PROJECT DWY @
EL TORO RD

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LINSCOTT
LAW &
GREENSPAN
engineers

N
NO SCALE

KEY

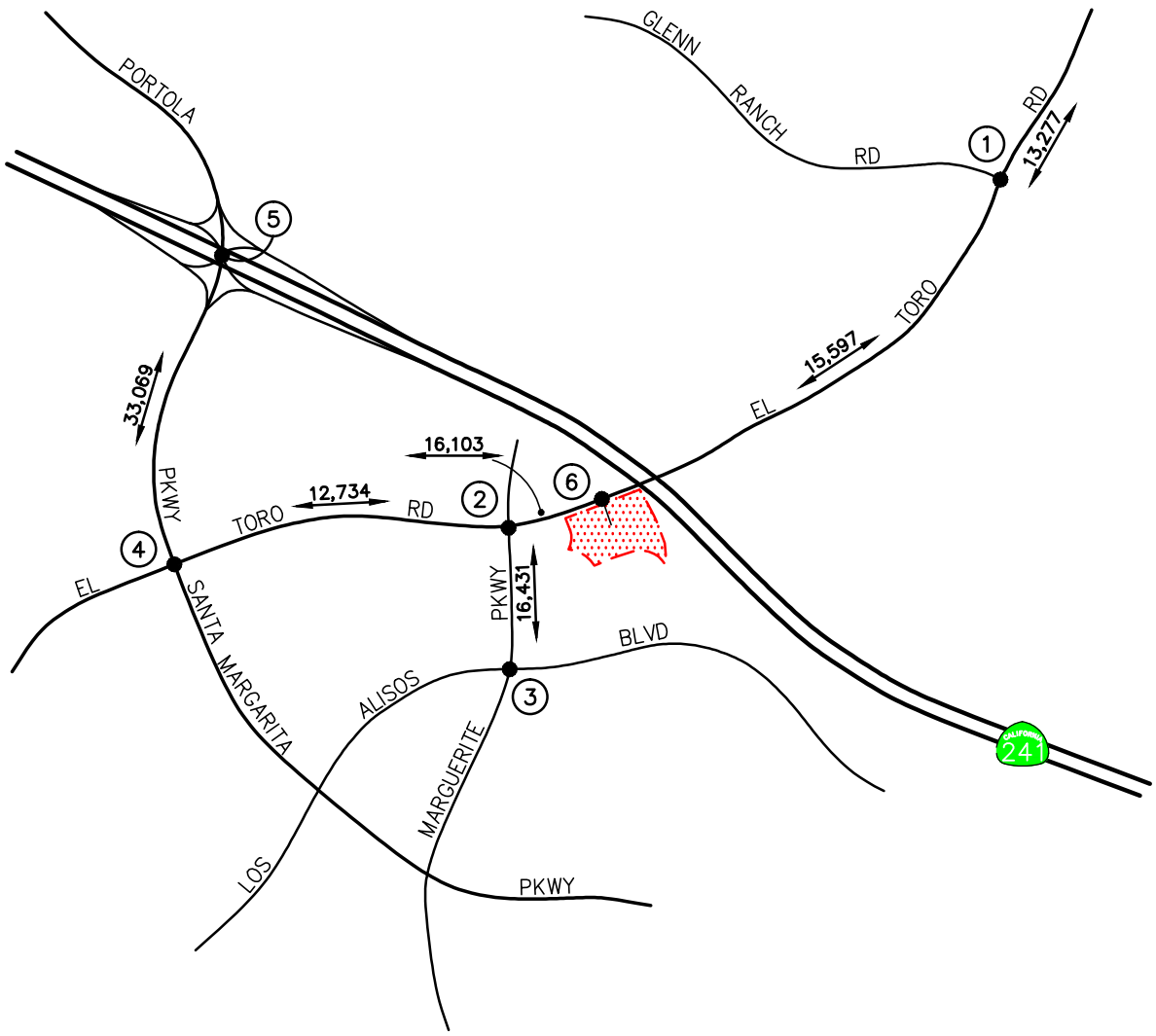
(#) = STUDY INTERSECTION

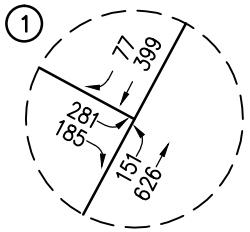
= PROJECT SITE

FIGURE 6-1

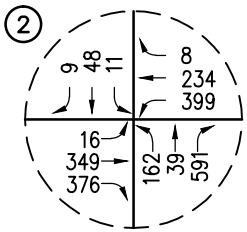
EXISTING PLUS PROJECT
AM PEAK HOUR TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

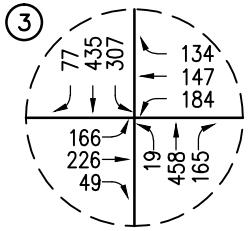




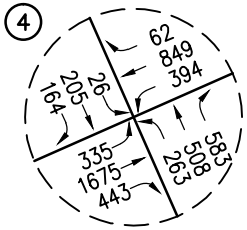
EL TORO RD @
GLENN RANCH RD



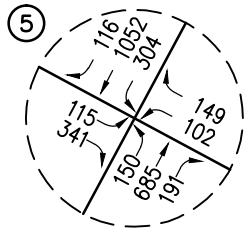
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



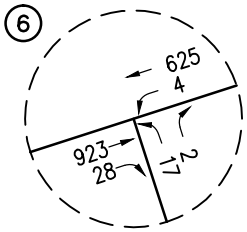
MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS



PROJECT DWY @
EL TORO RD

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LINSCOTT
LAW &
GREENSPAN
engineers

N
NO SCALE

KEY

(#) = STUDY INTERSECTION

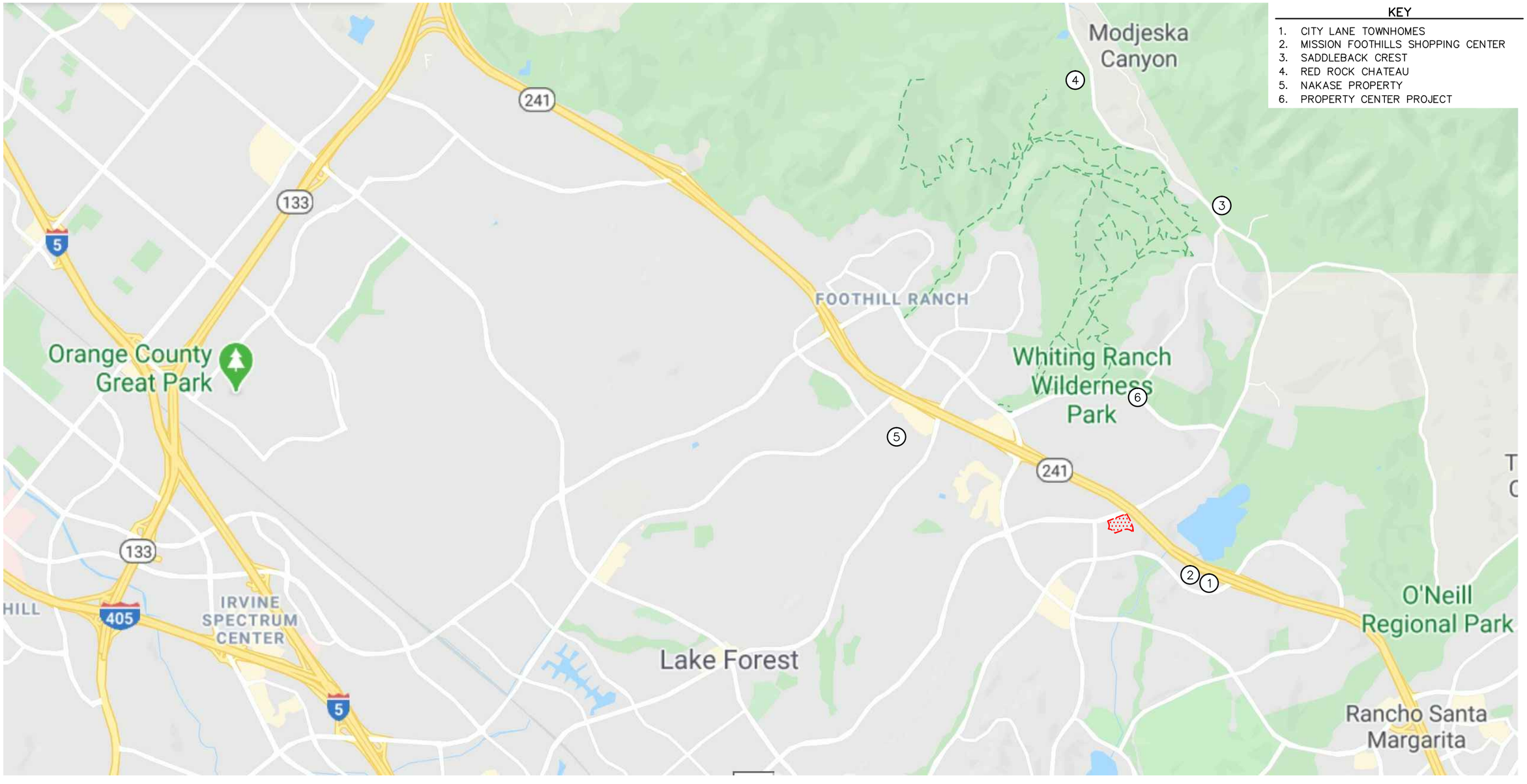
XX,XXX = DAILY TRAFFIC VOLUMES

= PROJECT SITE

FIGURE 6-2

EXISTING PLUS PROJECT
PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

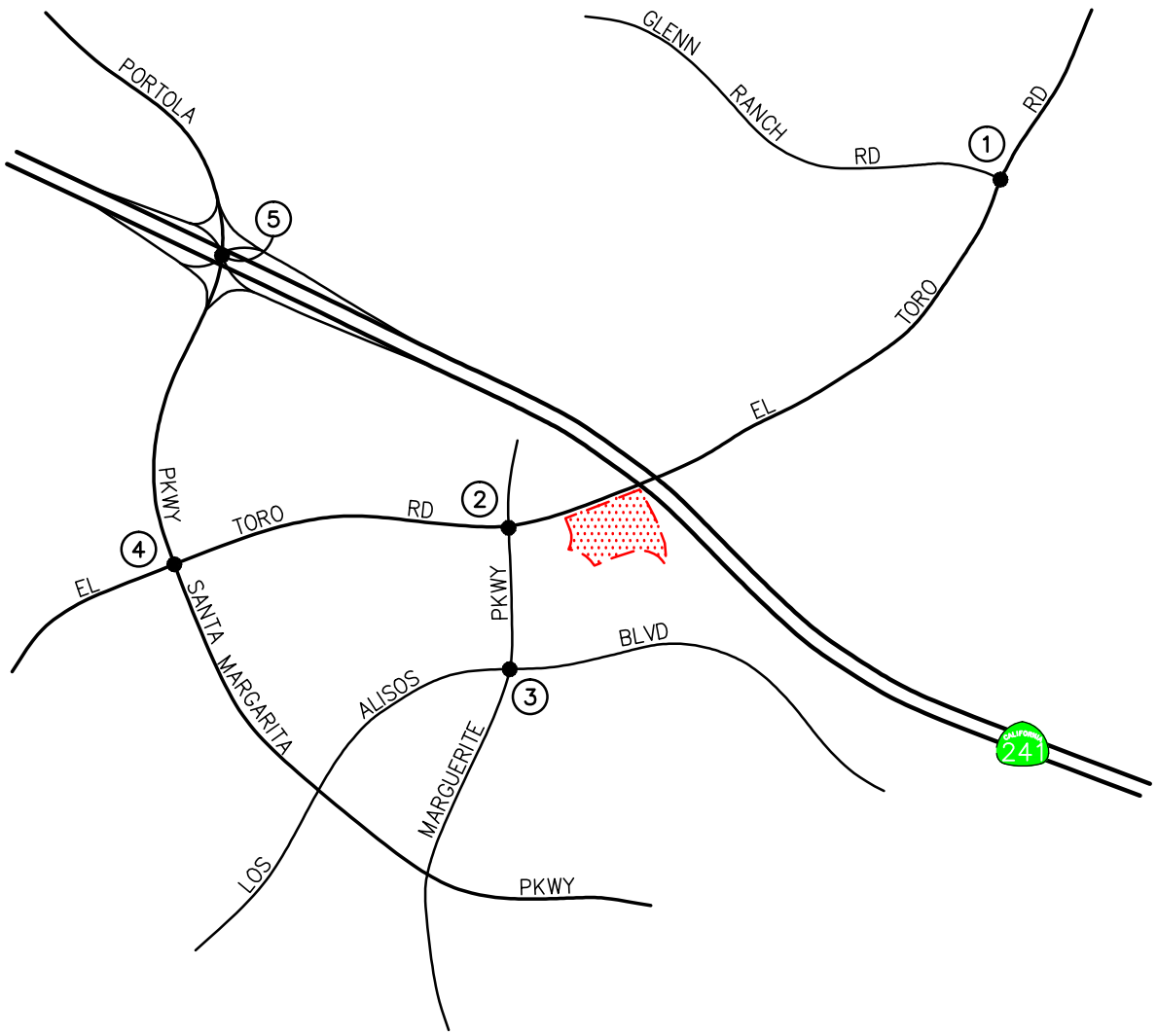
(#) = CUMULATIVE PROJECT LOCATION

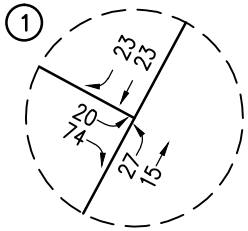
= PROJECT SITE

FIGURE 6-3

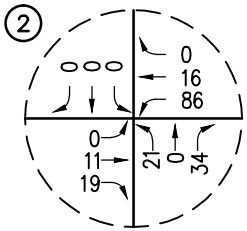
LOCATION OF CUMULATIVE PROJECTS

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

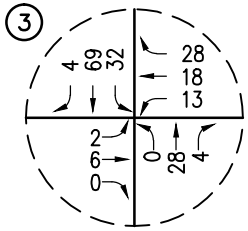




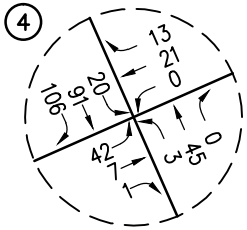
EL TORO RD @
GLENN RANCH RD



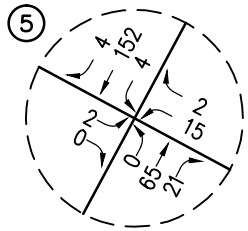
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS

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LINSCOTT
LAW &
GREENSPAN
engineers

N
NO SCALE

KEY

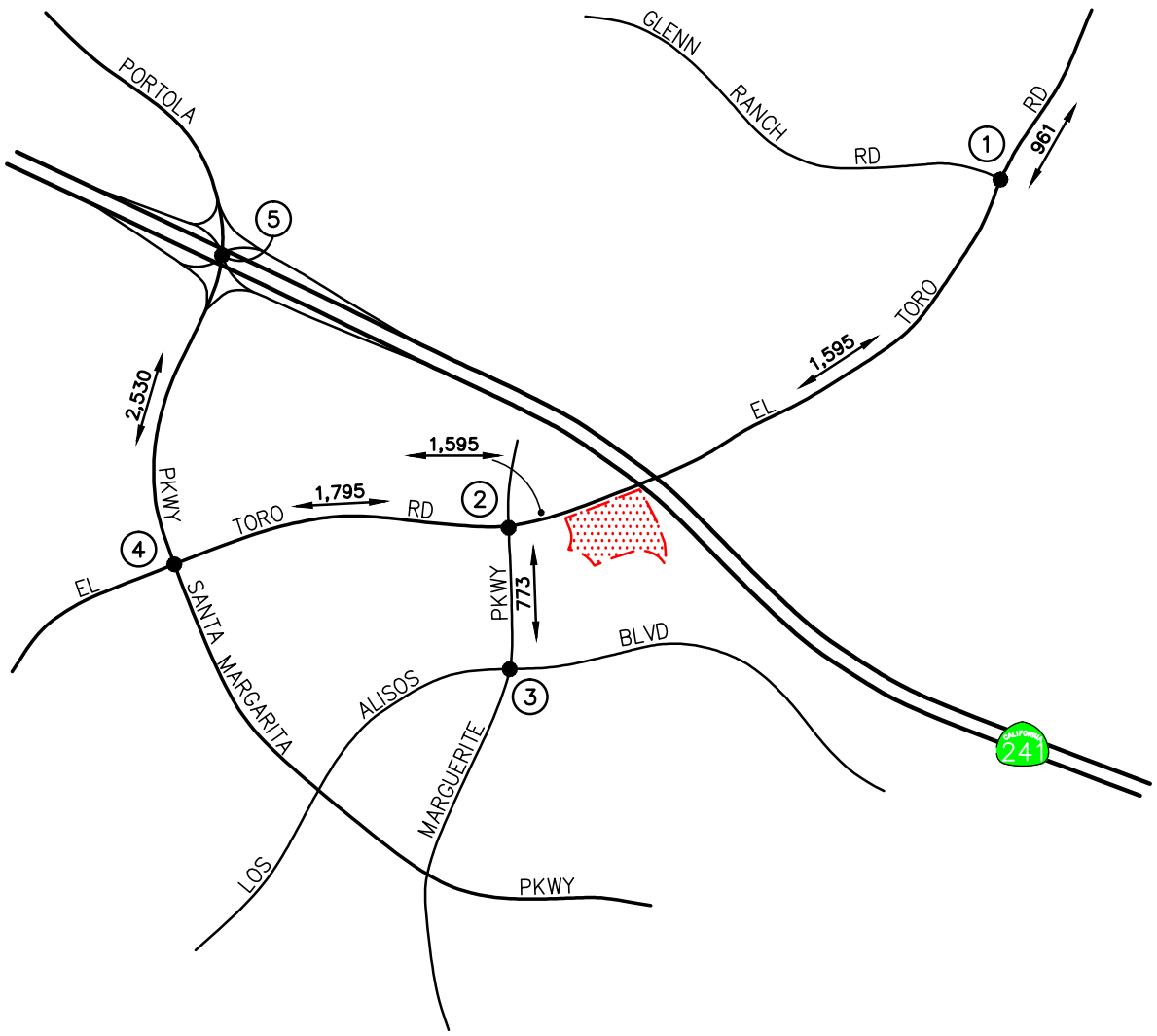
(#) = STUDY INTERSECTION

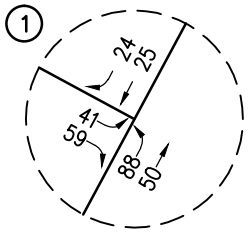
= PROJECT SITE

FIGURE 6-4

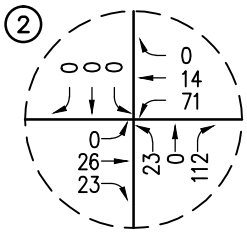
AM PEAK HOUR CUMULATIVE PROJECTS TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

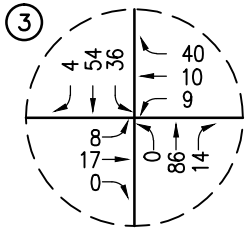




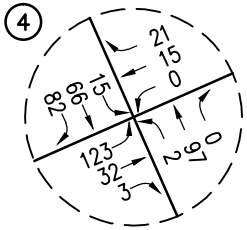
EL TORO RD @
GLENN RANCH RD



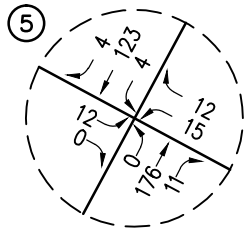
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS

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LINSCOTT
LAW &
GREENSPAN
engineers

N
NO SCALE

KEY

(#) = STUDY INTERSECTION

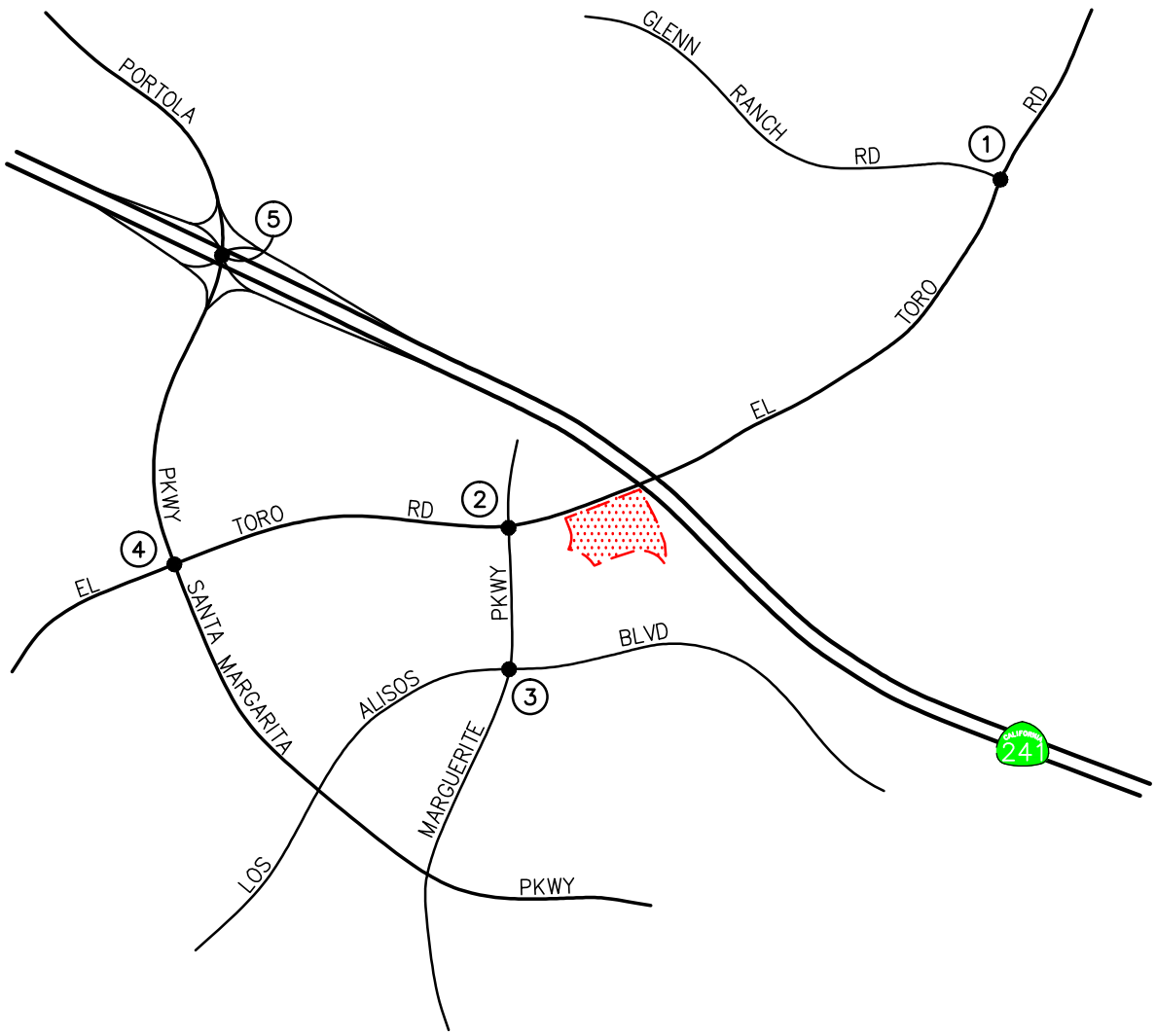
XX,XXX = DAILY TRAFFIC VOLUMES

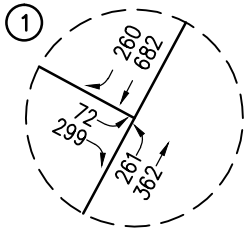
= PROJECT SITE

FIGURE 6-5

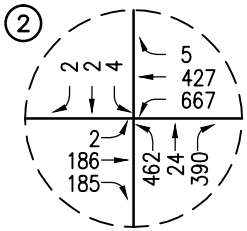
PM PEAK HOUR AND DAILY CUMULATIVE PROJECTS TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

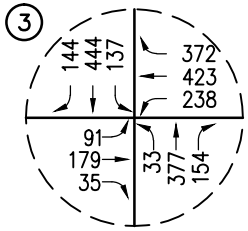




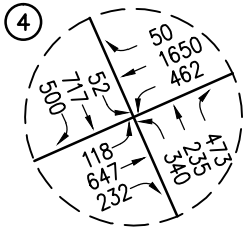
EL TORO RD @
GLENN RANCH RD



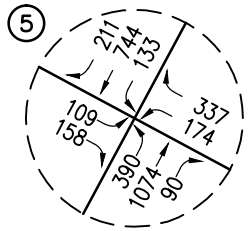
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS

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LINSCOTT
LAW &
GREENSPAN
engineers

N
NO SCALE

KEY

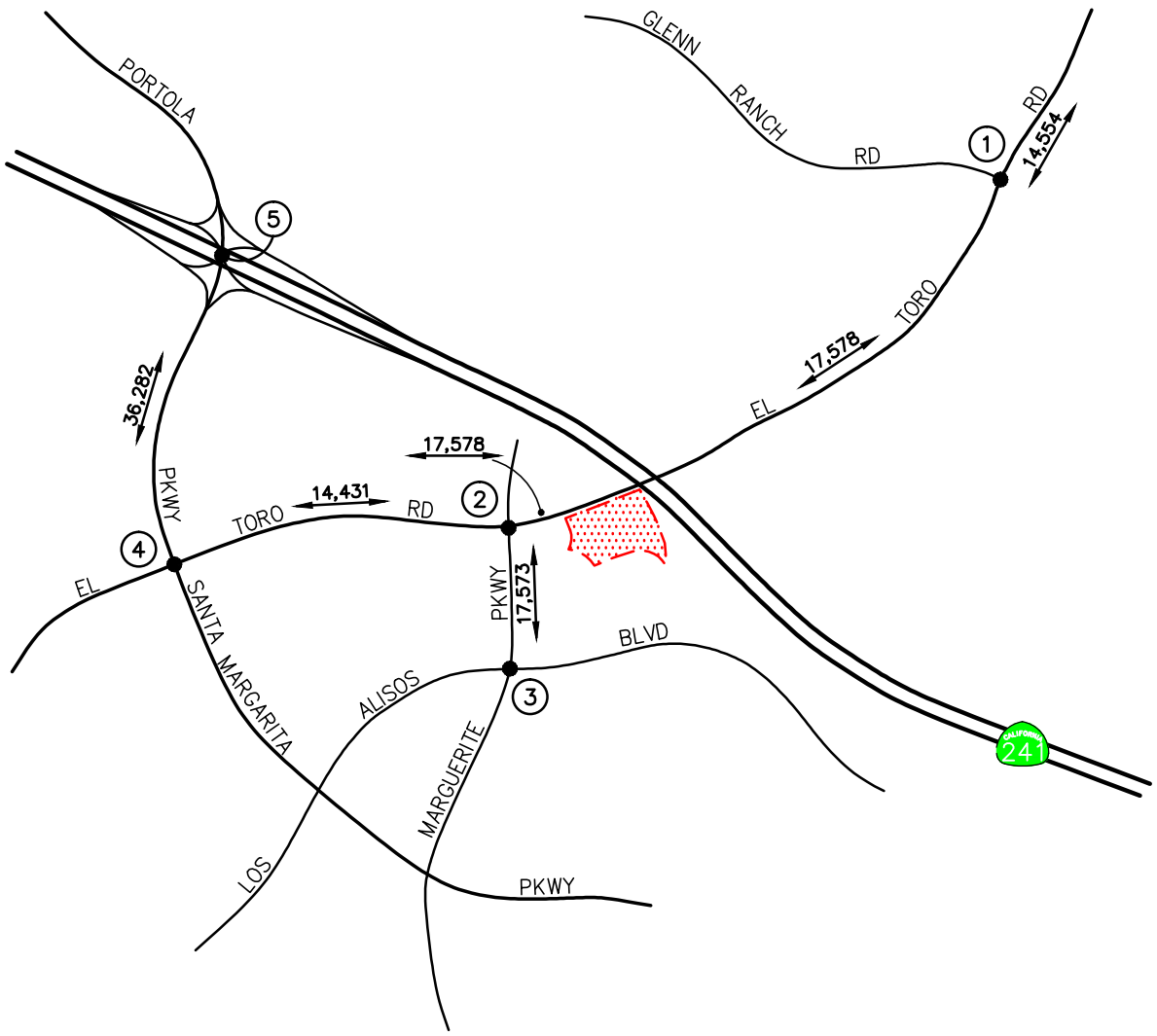
(#) = STUDY INTERSECTION

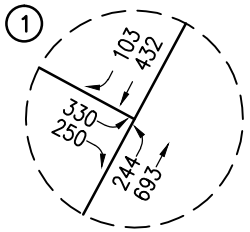
= PROJECT SITE

FIGURE 6-6

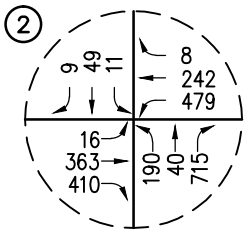
YEAR 2023 CUMULATIVE AM PEAK HOUR TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

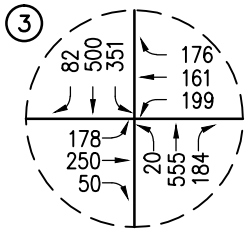




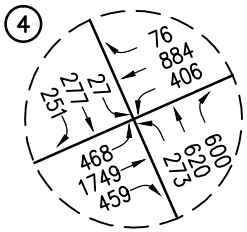
EL TORO RD @
GLENN RANCH RD



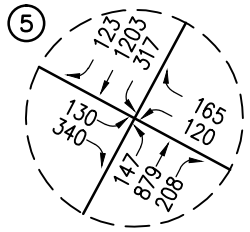
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS

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LINSCOTT
LAW &
GREENSPAN
engineers

N
NO SCALE

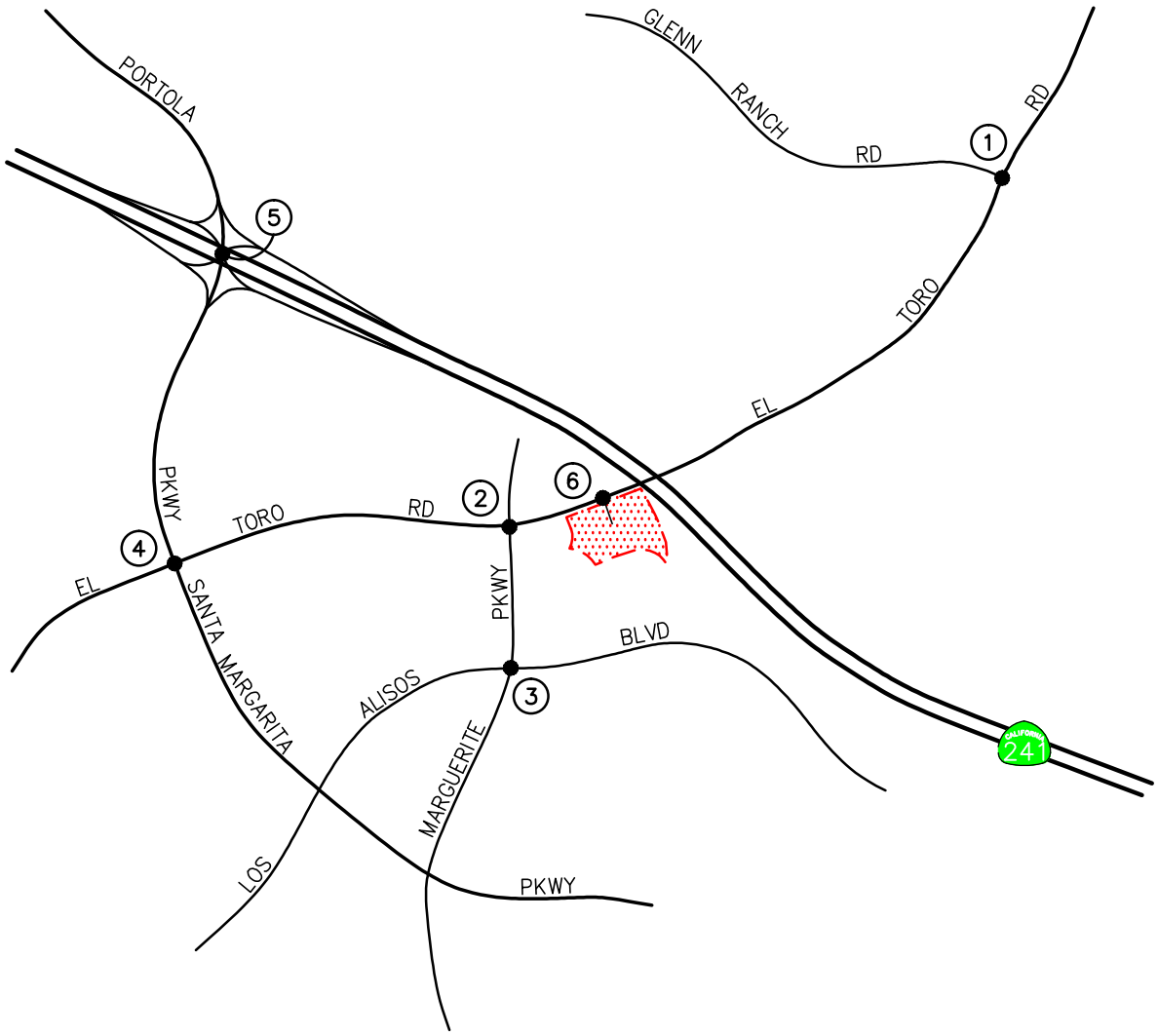
KEY

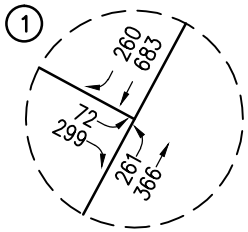
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES
= PROJECT SITE

FIGURE 6-7

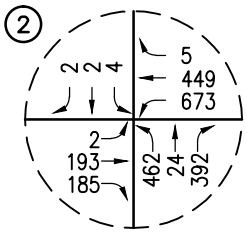
YEAR 2023 CUMULATIVE PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

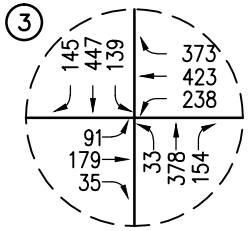




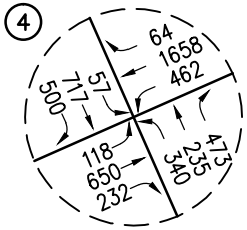
EL TORO RD @
GLENN RANCH RD



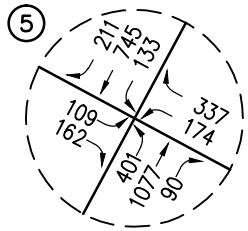
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



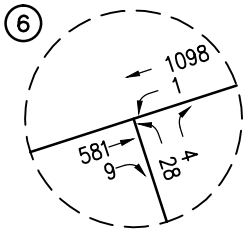
MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS



PROJECT DWY @
EL TORO RD

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LAW &
GREENSPAN
engineers

N
NO SCALE

KEY

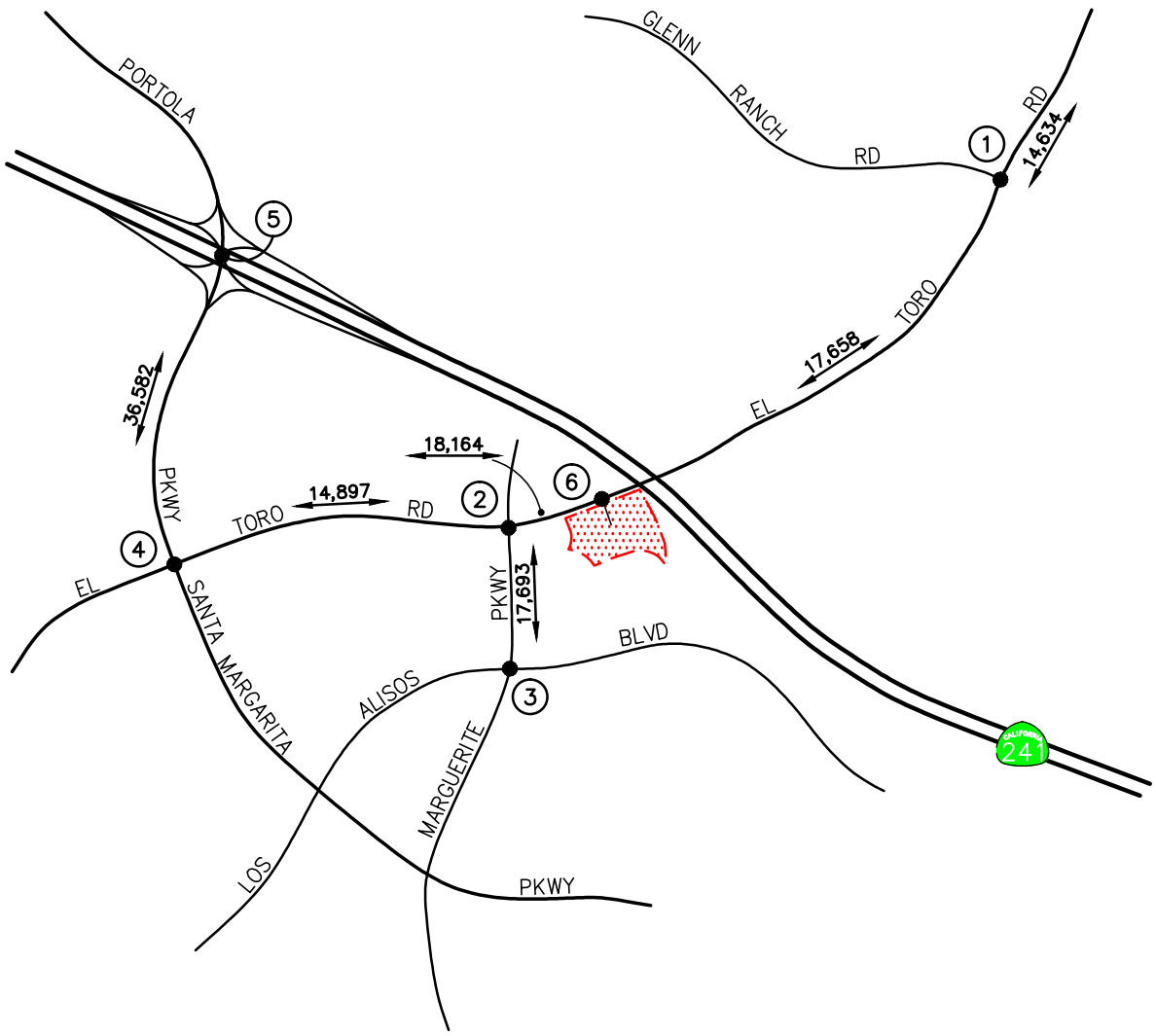
(#) = STUDY INTERSECTION

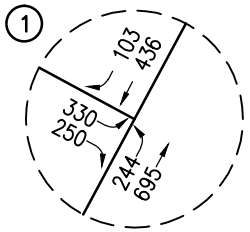
= PROJECT SITE

FIGURE 6-8

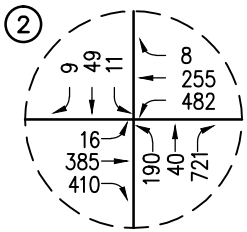
YEAR 2023 CUMULATIVE PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

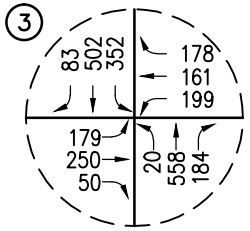




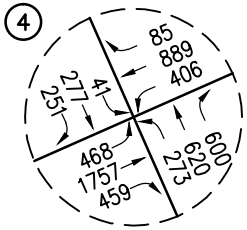
EL TORO RD @
GLENN RANCH RD



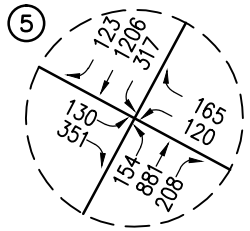
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



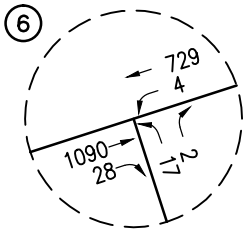
MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS



PROJECT DWY @
EL TORO RD

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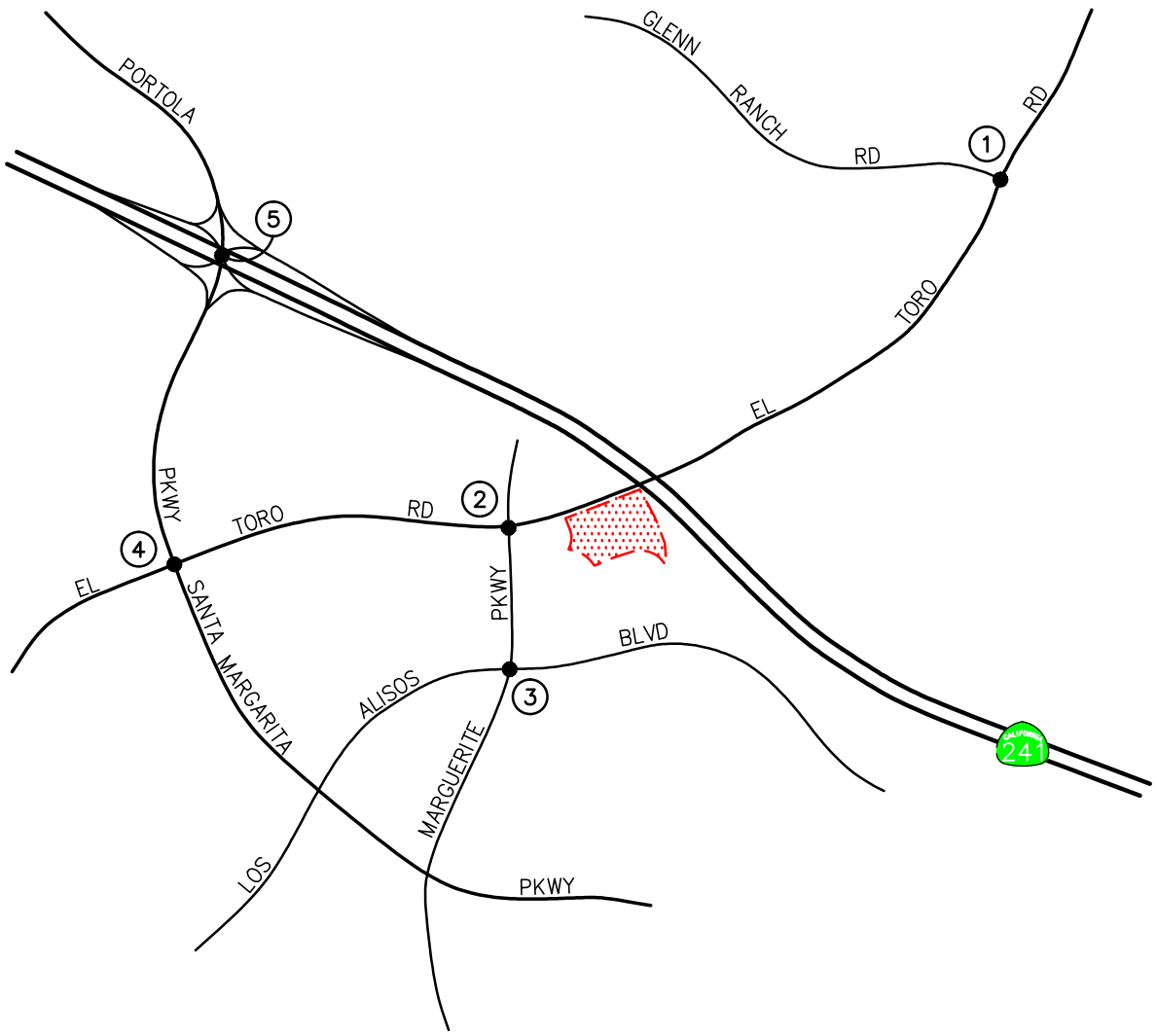
KEY

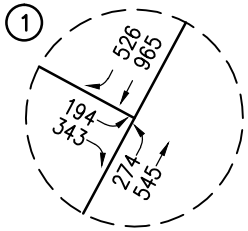
(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES
= PROJECT SITE

FIGURE 6-9

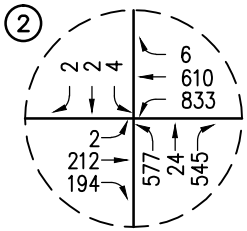
YEAR 2023 CUMULATIVE PLUS PROJECT PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

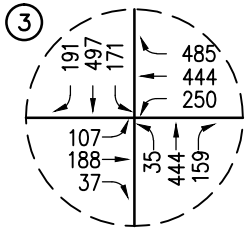




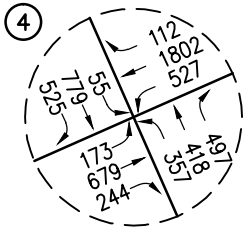
EL TORO RD @
GLENN RANCH RD



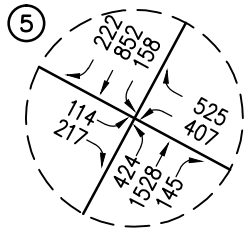
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS

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KEY

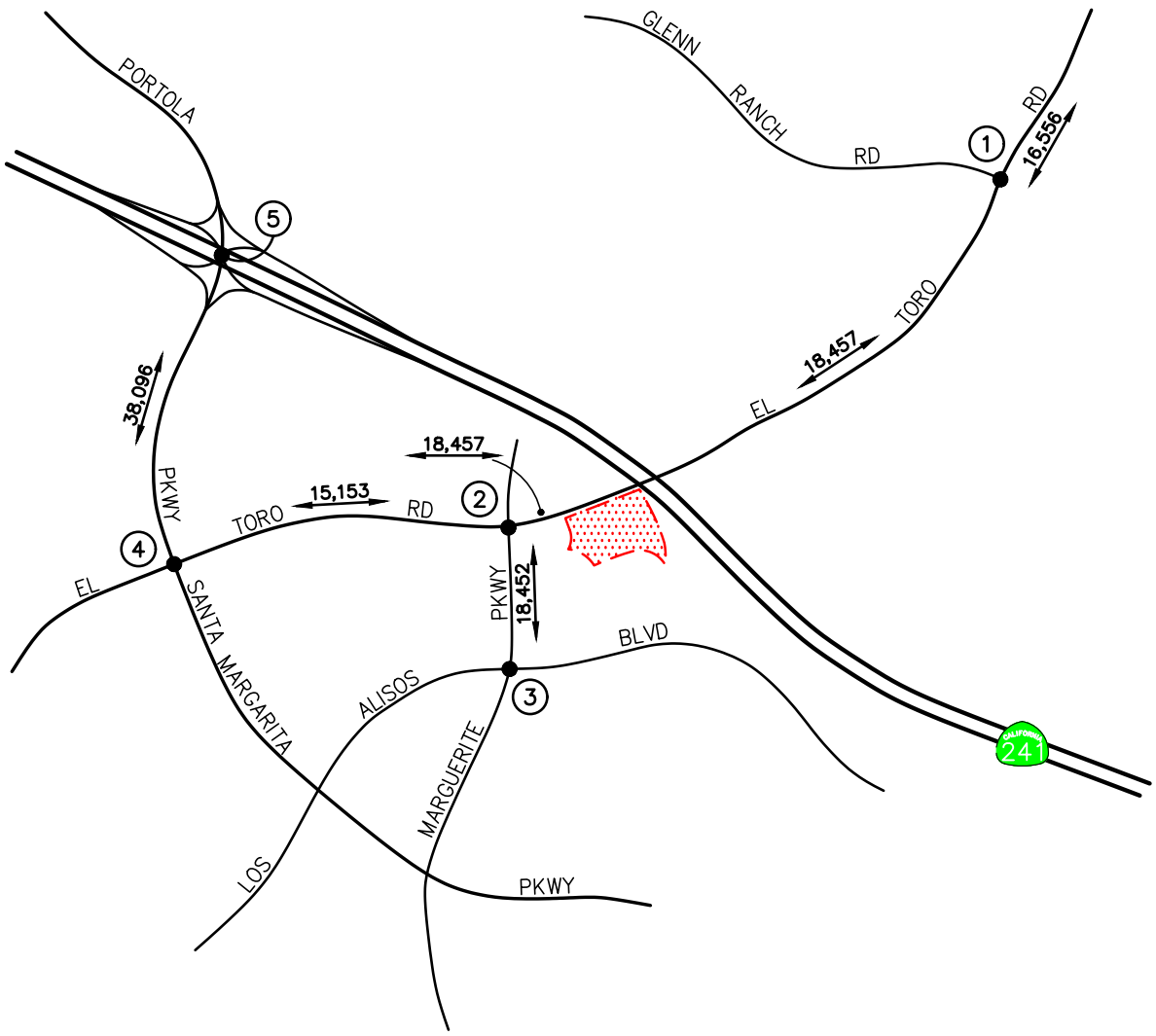
(#) = STUDY INTERSECTION

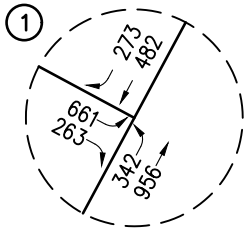
= PROJECT SITE

FIGURE 6-10

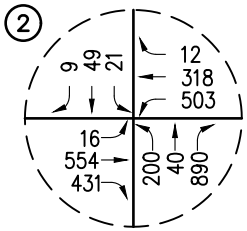
YEAR 2045 BUILDOUT
AM PEAK HOUR TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

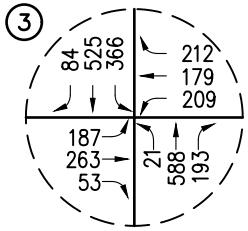




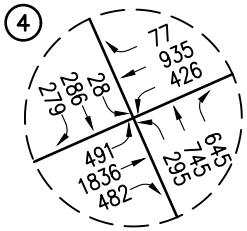
EL TORO RD @
GLENN RANCH RD



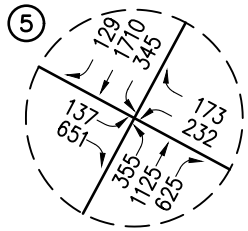
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS

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KEY

(#) = STUDY INTERSECTION

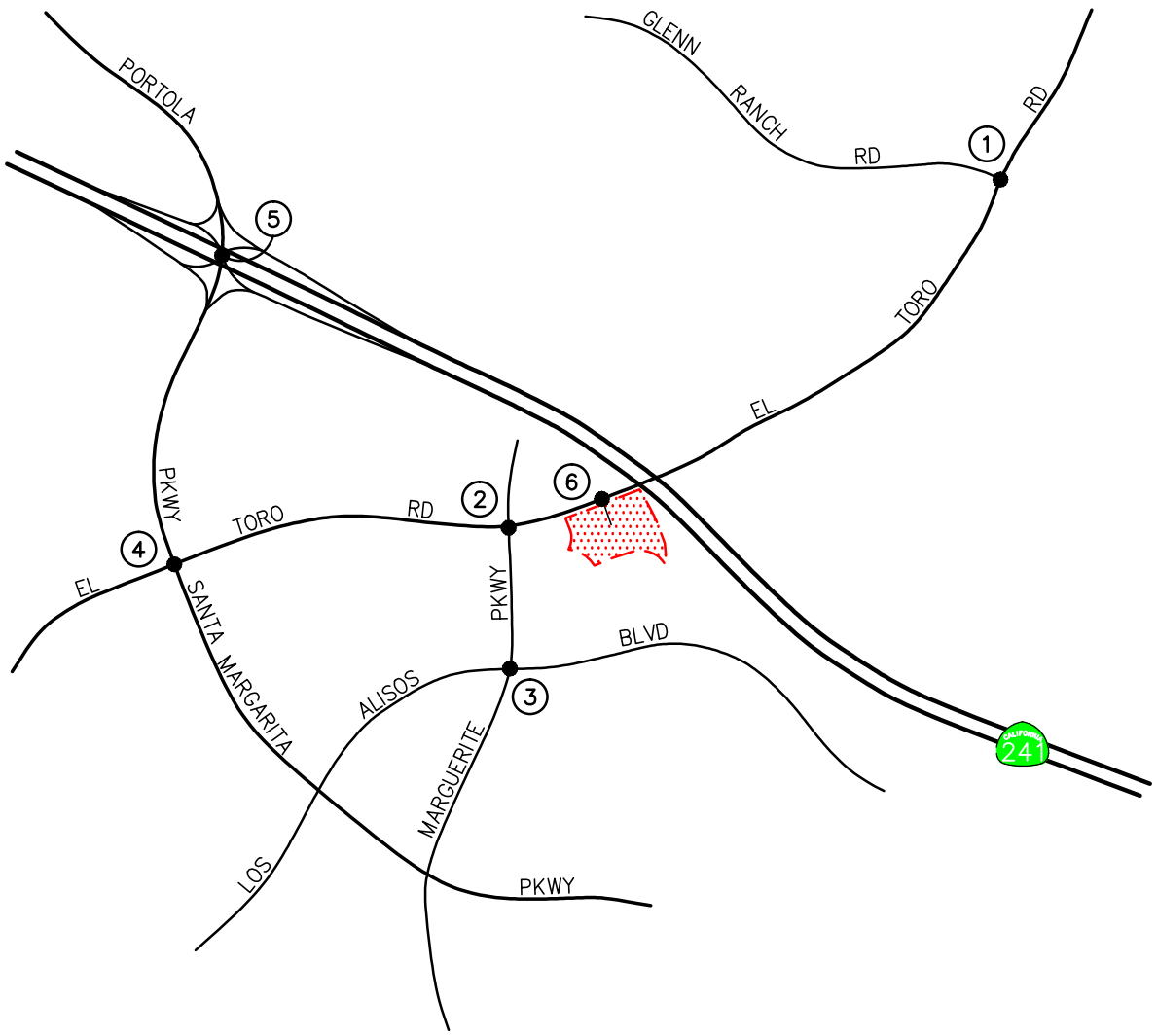
XX,XXX = DAILY TRAFFIC VOLUMES

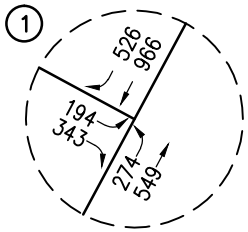
= PROJECT SITE

FIGURE 6-11

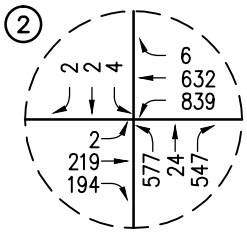
YEAR 2045 BUILDOUT
PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

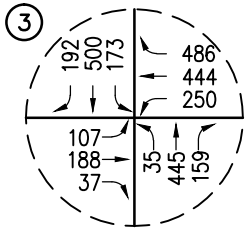




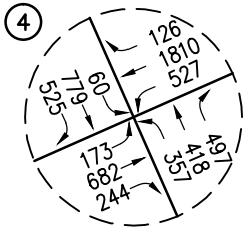
EL TORO RD @
GLENN RANCH RD



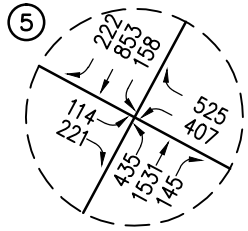
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



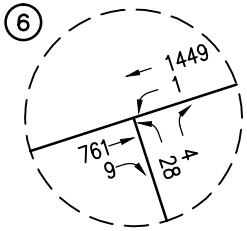
MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS



PROJECT DWY @
EL TORO RD

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KEY

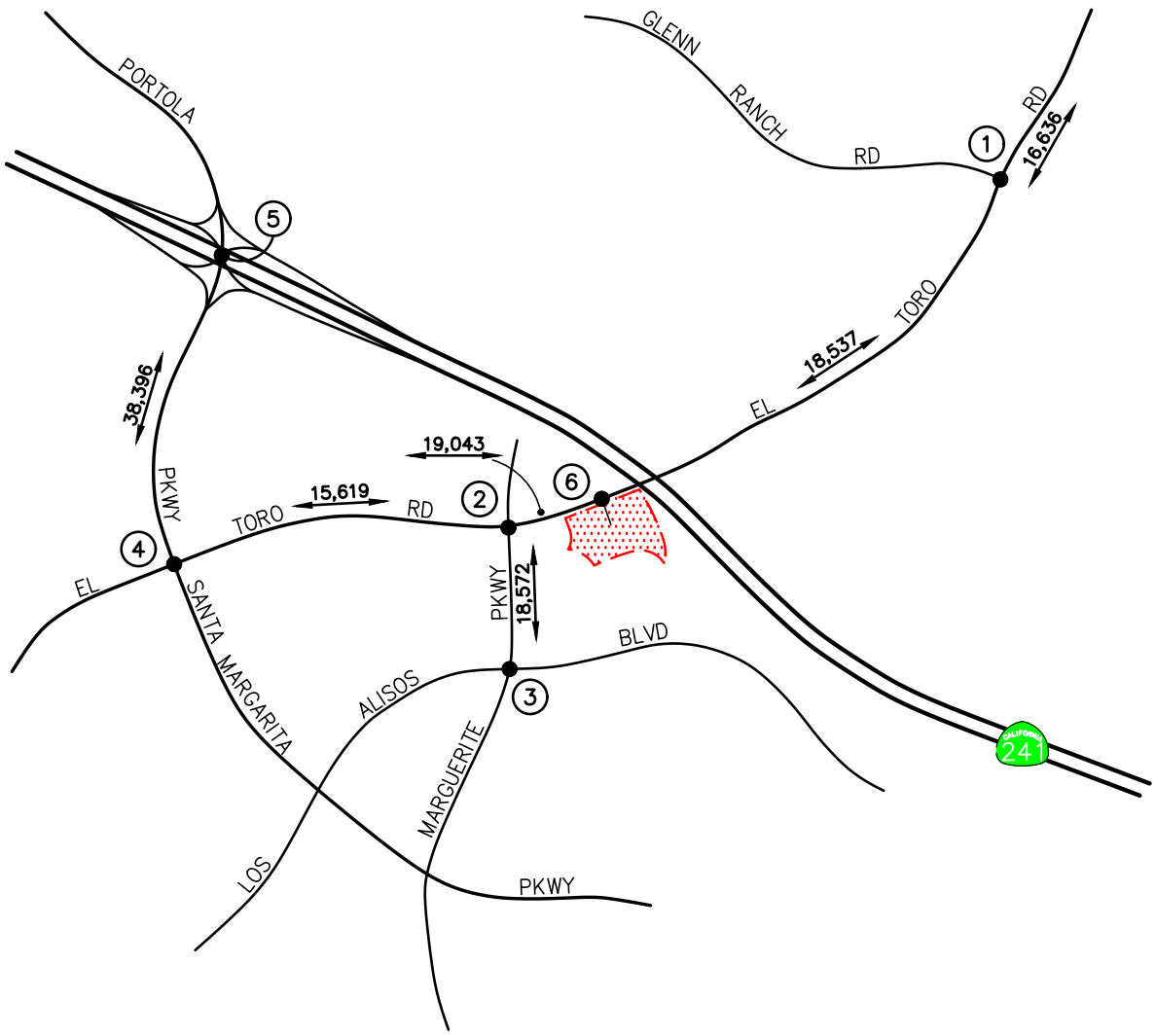
(#) = STUDY INTERSECTION

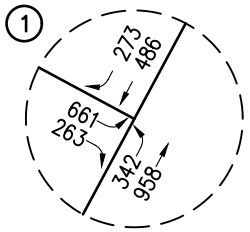
= PROJECT SITE

FIGURE 6-12

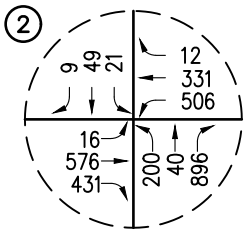
YEAR 2045 BUILDOUT PLUS PROJECT AM PEAK HOUR TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

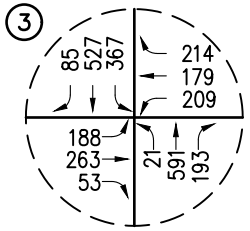




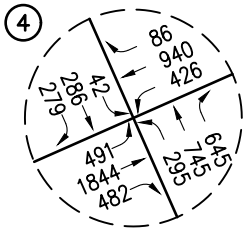
EL TORO RD @
GLENN RANCH RD



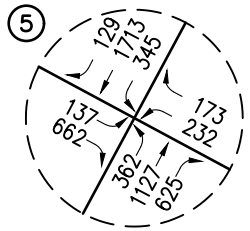
SADDLEBACK CHURCH/
MARGUERITE PKWY @
EL TORO RD



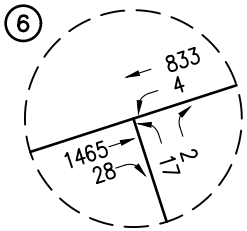
MARGUERITE PKWY @
LOS ALISOS BLVD



PORTOLA PKWY/
SANTA MARGARITA PKWY @
EL TORO RD



PORTOLA PKWY @
SR-241 RAMPS



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KEY

(#) = STUDY INTERSECTION
XX,XXX = DAILY TRAFFIC VOLUMES
= PROJECT SITE

FIGURE 6-13

YEAR 2045 BUILDOUT PLUS PROJECT PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

7.0 EXISTING CONDITIONS TRAFFIC IMPACT ANALYSIS

The existing conditions analysis establishes the basis for the future forecasts for the Project. This analysis was based on existing intersection and roadway segment counts. The existing conditions analysis reflects these counts as well as existing lane configurations for all analyzed intersections and roadway segments.

7.1 Existing Conditions Intersection Capacity Analysis

Table 7-1 summarizes the peak hour Level of Service results at the five (5) key study intersections for existing traffic conditions, with and without the Project. The first column (1) of ICU/LOS values in *Table 7-1* presents a summary of Existing AM and PM peak hour traffic conditions. The second column (2) in *Table 7-1* presents forecast Existing With Project traffic conditions. The third column (3) of *Table 7-1* shows whether the traffic associated with the Project will have a significant impact based on the LOS standards and the significance impact criteria defined in this report.

7.1.1 *Existing Traffic Conditions*

Review of column (1) of *Table 7-1* indicates that all five (5) key study intersections are forecast to operate at acceptable LOS C or better for the Existing traffic conditions.

7.1.2 *Existing With Project Traffic Conditions*

Review of columns (2) and (3) of *Table 7-1* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the five (5) key study intersections when compared to the LOS standards and significant impact criteria specified in this report. The five (5) key study intersections currently operate and are forecast to continue to operate at an acceptable LOS C or better during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.

Appendix E contains the ICU/LOS calculation worksheets for Existing and Existing With Project Traffic Conditions.

TABLE 7-1

EXISTING CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[15]

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Existing With Project Traffic Conditions		(3) Significant Impact	
			ICU	LOS	ICU	LOS	ICU Increase	Yes/No
1.	El Toro Road at	AM	0.469	A	0.469	A	0.000	No
	Glenn Ranch Road	PM	0.582	A	0.584	A	0.002	No
2.	Marguerite Parkway/Saddleback Church at	AM	0.438	A	0.439	A	0.001	No
	El Toro Road	PM	0.629	B	0.633	B	0.004	No
3.	Marguerite Parkway at	AM	0.517	A	0.519	A	0.002	No
	Los Alisos Boulevard	PM	0.601	B	0.603	B	0.002	No
4.	Santa Margarita Parkway/Portola Pkwy at	AM	0.714	C	0.714	C	0.000	No
	El Toro Road	PM	0.773	C	0.778	C	0.005	No
5.	Portola Parkway at	AM	0.385	A	0.386	A	0.001	No
	SR-241 Ramps	PM	0.395	A	0.398	A	0.003	No

Notes:

- ICU = Intersection Capacity Utilization
- LOS = Level of Service, please refer to *Table 3-1* for the LOS definitions.
- **Bold ICU/LOS values** indicate unacceptable service levels.

[15] *Appendix E* contains the ICU/LOS calculation worksheets for all study intersections.

7.2 Existing Conditions Roadway Segment Analysis

Table 7-2 summarizes the roadway segment level of service results at the six (6) key roadway segments for existing traffic conditions with and without the Project. The first column (1) shows the number of lanes, the second column (2) shows the arterial classification and the third column (3) shows the existing LOS "E" capacity. The fourth column (4) presents a summary of existing daily traffic conditions. The fifth column (5) lists existing with project daily traffic conditions. Column 5 also shows the increase in V/C ratio value due to the added daily project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report.

7.2.1 *Existing Traffic Conditions*

Review of column (4) of *Table 7-2* indicates that all six (6) key roadway segments are forecast to operate at acceptable LOS A for the Existing traffic conditions.

7.2.2 *Existing With Project Traffic Conditions*

Review of column (5) of *Table 7-2* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the six (6) key roadway segments when compared to the LOS standards and significant impact criteria specified in this report. The six (6) key roadway segments are forecast to continue to operate at an acceptable LOS A on a daily basis with the addition of Project generated traffic to existing traffic.

TABLE 7-2
EXISTING CONDITIONS DAILY ROADWAY SEGMENT ANALYSIS SUMMARY

Key Roadway Segment	(1) Lanes	(2) Type of Arterial	(3) LOS E Capacity (VPD)	(4) Existing Traffic Conditions			(5) Existing With Project Traffic Conditions				
				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Significant (Yes/No)
A. El Toro Road *between* Glenn Ranch Road and Cielo Entrada	3D	Primary	28,100[16]	13,197	0.470	A	13,277	0.472	A	0.002	No
B. El Toro Road *between* Project Driveway and Glenn Ranch Road	4D	Primary	37,500	15,517	0.414	A	15,597	0.416	A	0.002	No
C. El Toro Road *between* Marguerite Pkwy/Saddleback Church and Project Driveway	5D	Major	46,900[17]	15,517	0.331	A	16,103	0.343	A	0.012	No

Notes:

- VPD = Vehicles Per Day
- D = Divided
- U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-4* for the LOS definitions.

[16] Modified LOS E capacity for a 3-lane, divided roadway based on the following: [(37,500/4) x 3 = 28,100].

[17] Modified LOS E capacity for a 5-lane, divided roadway based on the following: [(56,300/6) x 5 = 46,900].

TABLE 7-2 (CONTINUED)
EXISTING CONDITIONS DAILY ROADWAY SEGMENT ANALYSIS SUMMARY

Key Roadway Segment	(1) Lanes	(2) Type of Arterial	(3) LOS E Capacity (VPD)	(4) Existing Traffic Conditions			(5) Existing With Project Traffic Conditions				
				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Significant (Yes/No)
D. El Toro Road *between* Santa Margarita Pkwy/Portola Pkwy and Marguerite Pkwy/Saddleback Church	4D	Primary	37,500	12,268	0.327	A	12,734	0.340	A	0.013	No
E. Portola Parkway *between* SR-241 Ramps and El Toro Road	7D	Principal	65,600[18]	32,769	0.500	A	33,069	0.504	A	0.004	No
F. Marguerite Pkwy *between* El Toro Road and Los Alisos Boulevard	4D	Primary	37,500	16,311	0.435	A	16,431	0.438	A	0.003	No

Notes:

- VPD = Vehicles Per Day
- D = Divided
- U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-4* for the LOS definitions.

[18] Modified LOS E capacity for a 5-lane, divided roadway based on the following: [(75,000/8) x 7 = 65,600].

8.0 YEAR 2023 TRAFFIC IMPACT ANALYSIS

The relative impacts of the added Project traffic volumes generated by proposed Project during the AM and PM peak hours, was evaluated based on analysis of future Year 2023 operating conditions at the five (5) key study intersections, with and without the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future ICU and V/C relationships and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the Project at each key intersection and roadway segment was then evaluated using the traffic impact criteria mentioned in this report.

8.1 Year 2023 Conditions Intersection Capacity Analysis

Table 8-1 summarizes the AM and PM peak hour Level of Service results at the five (5) key study intersections for Year 2023 traffic conditions. The first column (1) of ICU/LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 7-1*). The second column (2) presents forecast Year 2023 Without Project traffic conditions and the third column (3) identifies forecast Year 2023 With Project traffic conditions. The fourth column (4) identifies the Project increment and indicates whether the traffic associated with the Project will have a significant impact based on the significant traffic impact criteria mentioned in this report.

8.1.1 *Year 2023 Without Project Traffic Conditions*

Review of column (2) of *Table 8-1* shows that all five (5) key study intersections are forecast to operate at acceptable LOS D or better during the AM and PM peak hours under Year 2023 Without Project traffic conditions.

8.1.2 *Year 2023 With Project Traffic Conditions*

Review of columns (3) and (4) of *Table 8-1* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the five (5) key study intersections when compared to the LOS standards and significant impact criteria specified in this report. All five (5) key study intersections are forecast to continue to operate at an acceptable LOS D or better during the AM and PM peak hours with the addition of project generated traffic in the Year 2023.

Appendix F contains the ICU/LOS calculation worksheets for Year 2023 Traffic Conditions.

TABLE 8-1

YEAR 2023 CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[19]

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Year 2023 Without Project Traffic Conditions		(3) Year 2023 With Project Traffic Conditions		(4) Significant Impact	
			ICU	LOS	ICU	LOS	ICU	LOS	ICU Increase	Yes/No
1.	El Toro Road at	AM	0.469	A	0.523	A	0.523	A	0.000	No
	Glenn Ranch Road	PM	0.582	A	0.652	B	0.653	B	0.001	No
2.	Marguerite Parkway/Saddleback Church at	AM	0.438	A	0.492	A	0.494	A	0.002	No
	El Toro Road	PM	0.629	B	0.726	C	0.730	C	0.004	No
3.	Marguerite Parkway at	AM	0.517	A	0.574	A	0.576	A	0.002	No
	Los Alisos Boulevard	PM	0.601	B	0.679	B	0.681	B	0.002	No
4.	Santa Margarita Parkway/Portola Pkwy at	AM	0.714	C	0.773	C	0.774	C	0.001	No
	El Toro Road	PM	0.773	C	0.819	D	0.825	D	0.006	No
5.	Portola Parkway at	AM	0.385	A	0.426	A	0.429	A	0.003	No
	SR-241 Ramps	PM	0.395	A	0.441	A	0.444	A	0.003	No

Notes:

- ICU = Intersection Capacity Utilization
- LOS = Level of Service, please refer to *Table 3-1* for the LOS definitions.
- **Bold ICU/LOS values** indicate unacceptable service levels.

[19] *Appendix F* contains the ICU/LOS calculation worksheets for all study intersections.

8.2 Year 2023 Conditions Roadway Segment Analysis

Table 8-2 summarizes the roadway segment level of service results at the six (6) key roadway segments for Year 2023 traffic conditions. The first column (1) shows the number of lanes, the second column (2) shows the arterial classification and the third column (3) shows the existing LOS "E" capacity. The fourth column (4) presents a summary of existing daily traffic conditions. The fifth column (5) presents a summary of projected Year 2023 cumulative daily traffic conditions. The sixth column (6) lists Year 2023 plus project daily traffic conditions. Column 6 also shows the increase in V/C ratio value due to the added daily project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report.

8.2.1 *Year 2023 Without Project Traffic Conditions*

Review of column (5) of *Table 8-2* indicates that all six (6) key roadway segments are forecast to operate at acceptable LOS A for Year 2023 Without Project traffic conditions based on the LOS impact criteria outlined in this report.

8.2.2 *Year 2023 With Project Traffic Conditions*

Review of column (6) of *Table 8-2* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the six (6) key roadway segments when compared to the LOS standards and significant impact criteria specified in this report. The six (6) key roadway segments are forecast to continue to operate at an acceptable LOS A on a daily basis with the addition of Project generated traffic in the Year 2022 traffic condition.

TABLE 8-2
YEAR 2023 CONDITIONS DAILY ROADWAY SEGMENT ANALYSIS SUMMARY

Key Roadway Segment	(1) Lanes	(2) Type of Arterial	(3) LOS E Capacity (VPD)	(4) Existing Traffic Conditions			(5) Year 2023 Without Project Traffic Conditions			(6) Year 2023 With Project Traffic Conditions				
				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Significant (Yes/No)
A. El Toro Road *between* Glenn Ranch Road and Cielo Entrada	3D	Primary	28,100[20]	13,197	0.470	A	14,554	0.518	A	14,634	0.521	A	0.003	No
B. El Toro Road *between* Project Driveway and Glenn Ranch Road	4D	Primary	37,500	15,517	0.414	A	17,578	0.469	A	17,658	0.471	A	0.002	No
C. El Toro Road *between* Marguerite Pkwy/Saddleback Church and Project Driveway	5D	Major	46,900[21]	15,517	0.331	A	17,578	0.375	A	18,164	0.387	A	0.012	No

Notes:

- VPD = Vehicles Per Day
- D = Divided
- U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-4* for the LOS definitions.

[20] Modified LOS E capacity for a 3-lane, divided roadway based on the following: [(37,500/4) x 3 = 28,100].

[21] Modified LOS E capacity for a 5-lane, divided roadway based on the following: [(56,300/6) x 5 = 46,900].

TABLE 8-2 (CONTINUED)
YEAR 2023 CONDITIONS DAILY ROADWAY SEGMENT ANALYSIS SUMMARY

Key Roadway Segment	(1) Lanes	(2) Type of Arterial	(3) LOS E Capacity (VPD)	(4) Existing Traffic Conditions			(5) Year 2023 Without Project Traffic Conditions			(6) Year 2023 With Project Traffic Conditions				
				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Significant (Yes/No)
D. El Toro Road *between* Santa Margarita Pkwy/Portola Pkwy and Marguerite Pkwy/Saddleback Church	4D	Primary	37,500	12,268	0.327	A	14,431	0.385	A	14,897	0.397	A	0.012	No
E. Portola Parkway *between* SR-241 Ramps and El Toro Road	7D	Principal	65,600[22]	32,769	0.500	A	36,282	0.553	A	36,582	0.558	A	0.005	No
F. Marguerite Pkwy *between* El Toro Road and Los Alisos Boulevard	4D	Primary	37,500	16,311	0.435	A	17,573	0.469	A	17,693	0.472	A	0.003	No

Notes:

- VPD = Vehicles Per Day
- D = Divided
- U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-4* for the LOS definitions.

[22] Modified LOS E capacity for a 5-lane, divided roadway based on the following: [(75,000/8) x 7 = 65,600].

9.0 YEAR 2045 TRAFFIC IMPACT ANALYSIS

The relative impacts of the added Project traffic volumes generated by proposed Project during the AM and PM peak hours, was evaluated based on analysis of future Year 2045 operating conditions at the five (5) key study intersections, with and without the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future ICU and V/C relationships and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the Project at each key intersection and roadway segment was then evaluated using the traffic impact criteria mentioned in this report.

9.1 Year 2045 Conditions Intersection Capacity Analysis

Table 9-1 summarizes the AM and PM peak hour Level of Service results at the five (5) key study intersections for Year 2045 traffic conditions. The first column (1) of ICU/LOS values in *Table 9-1* presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) presents forecast Year 2045 Without Project traffic conditions and the third column (3) identifies forecast Year 2045 With Project traffic conditions. The fourth column (4) identifies the Project increment and indicates whether the traffic associated with the Project will have a significant impact based on the significant traffic impact criteria mentioned in this report.

9.1.1 *Year 2045 Without Project Traffic Conditions*

Review of column (2) of *Table 9-1* shows that Year 2045 Without Project traffic will adversely impact one (1) of the five (5) key study intersections during the PM peak hour when compared to the LOS standards specified in this report. The remaining four (4) key study intersections are forecast to operate at an acceptable LOS D or better for Year 2045 Without Project traffic conditions. The location projected to operate at an adverse LOS consists of the following:

	AM Peak Hour		PM Peak Hour	
Key Intersection	ICU	LOS	ICU	LOS
1. El Toro Road at Glenn Ranch Road	--	--	1.001	F

9.1.2 *Year 2045 With Project Traffic Conditions*

Review of columns (3) and (4) of *Table 9-1* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the five (5) key study intersections, when compared to the LOS standards and significant impact criteria specified in this report. Although the intersection of El Toro Road at Glenn Ranch Road is forecast to operate at unacceptable LOS F during the PM peak hour with the addition of Project traffic, the Project is expected to add less than the allowable threshold to the ICU value. The remaining four (4) key study intersections are forecast to continue to operate at acceptable LOS D or better during the AM and PM peak hours with the addition of Project generated traffic in the Year 2045.

Appendix G contains the ICU/LOS calculation worksheets for Year 2045 Traffic Conditions.

TABLE 9-1

YEAR 2045 CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[23]

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) Year 2045 Without Project Traffic Conditions		(3) Year 2045 With Project Traffic Conditions		(4) Significant Impact	
			ICU	LOS	ICU	LOS	ICU	LOS	ICU Increase	Yes/No
1.	El Toro Road at	AM	0.469	A	0.764	C	0.764	C	0.000	No
	Glenn Ranch Road	PM	0.582	A	**1.001**	**F**	**1.002**	**F**	0.001	No
2.	Marguerite Parkway/Saddleback Church at	AM	0.438	A	0.580	A	0.582	A	0.002	No
	El Toro Road	PM	0.629	B	0.841	D	0.845	D	0.004	No
3.	Marguerite Parkway at	AM	0.517	A	0.664	B	0.666	B	0.002	No
	Los Alisos Boulevard	PM	0.601	B	0.720	C	0.723	C	0.003	No
4.	Santa Margarita Parkway/Portola Pkwy at	AM	0.714	C	0.817	D	0.819	D	0.002	No
	El Toro Road	PM	0.773	C	0.873	D	0.879	D	0.006	No
5.	Portola Parkway at	AM	0.385	A	0.583	A	0.583	A	0.000	No
	SR-241 Ramps	PM	0.395	A	0.639	B	0.641	B	0.002	No

Notes:

- ICU = Intersection Capacity Utilization
- LOS = Level of Service, please refer to *Table 3-1* for the LOS definitions.
- **Bold ICU/LOS values** indicate unacceptable service levels.

[23] *Appendix G* contains the ICU/LOS calculation worksheets for all study intersections.

9.2 Year 2045 Conditions Roadway Segment Analysis

Table 9-2 summarizes the roadway segment level of service results at the six (6) key roadway segments for Year 2045 traffic conditions. The first column (1) shows the number of lanes, the second column (2) shows the arterial classification and the third column (3) shows the existing LOS "E" capacity. The fourth column (4) presents a summary of existing daily traffic conditions. The fifth column (5) presents a summary of projected Year 2045 daily traffic conditions. The sixth column (6) lists Year 2045 plus project daily traffic conditions. Column 6 also shows the increase in V/C ratio value due to the added daily project trips and indicates whether the traffic associated with the Project will have a significant impact based on the LOS standards and significant impact criteria defined in this report.

9.2.1 *Year 2045 Without Project Traffic Conditions*

Review of column (5) of *Table 9-2* indicates that all six (6) key roadway segments are forecast to operate at acceptable LOS A for Year 2045 Without Project traffic conditions based on the LOS impact criteria outlined in this report.

9.2.2 *Year 2045 With Project Traffic Conditions*

Review of column (6) of *Table 9-2* indicates that traffic associated with the proposed Project ***will not*** significantly impact any of the six (6) key roadway segments when compared to the LOS standards and significant impact criteria specified in this report. The six (6) key roadway segments are forecast to continue to operate at an acceptable LOS A on a daily basis with the addition of Project generated traffic in the Year 2045 traffic condition.

TABLE 9-2
YEAR 2045 CONDITIONS DAILY ROADWAY SEGMENT ANALYSIS SUMMARY

Key Roadway Segment	(1) Lanes	(2) Type of Arterial	(3) LOS E Capacity (VPD)	(4) Existing Traffic Conditions			(5) Year 2045 Without Project Traffic Conditions			(6) Year 2045 With Project Traffic Conditions				
				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Significant (Yes/No)
A. El Toro Road *between* Glenn Ranch Road and Cielo Entrada	3D	Primary	28,100[24]	13,197	0.470	A	16,556	0.589	A	16,636	0.592	A	0.003	No
B. El Toro Road *between* Project Driveway and Glenn Ranch Road	4D	Primary	37,500	15,517	0.414	A	18,457	0.492	A	18,537	0.494	A	0.002	No
C. El Toro Road *between* Marguerite Pkwy/Saddleback Church and Project Driveway	5D	Major	46,900[25]	15,517	0.331	A	18,457	0.394	A	19,043	0.406	A	0.012	No

Notes:

- VPD = Vehicles Per Day
- D = Divided
- U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-4* for the LOS definitions.

[24] Modified LOS E capacity for a 3-lane, divided roadway based on the following: [(37,500/4) x 3 = 28,100].
[25] Modified LOS E capacity for a 5-lane, divided roadway based on the following: [(56,300/6) x 5 = 46,900].

TABLE 9-2 (CONTINUED)
YEAR 2045 CONDITIONS DAILY ROADWAY SEGMENT ANALYSIS SUMMARY

Key Roadway Segment	(1) Lanes	(2) Type of Arterial	(3) LOS E Capacity (VPD)	(4) Existing Traffic Conditions			(5) Year 2045 Without Project Traffic Conditions			(6) Year 2045 With Project Traffic Conditions				
				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Increase	Significant (Yes/No)
D. El Toro Road *between* Santa Margarita Pkwy/Portola Pkwy and Marguerite Pkwy/Saddleback Church	4D	Primary	37,500	12,268	0.327	A	15,153	0.404	A	15,619	0.417	A	0.013	No
E. Portola Parkway *between* SR-241 Ramps and El Toro Road	7D	Principal	65,600[26]	32,769	0.500	A	38,096	0.581	A	38,396	0.585	A	0.004	No
F. Marguerite Pkwy *between* El Toro Road and Los Alisos Boulevard	4D	Primary	37,500	16,311	0.435	A	18,452	0.492	A	18,572	0.495	A	0.003	No

Notes:

- VPD = Vehicles Per Day
- D = Divided
- U = Undivided
- V/C = Volume to Capacity Ratio
- LOS = Level of Service, please refer to *Table 3-4* for the LOS definitions.

[26] Modified LOS E capacity for a 5-lane, divided roadway based on the following: [(75,000/8) x 7 = 65,600].

10.0 STATE OF CALIFORNIA (CALTRANS) METHODOLOGY

In conformance with the current Caltrans *Guide for the Preparation of Traffic Impact Studies*, existing and projected peak hour operating conditions at the one (1) state-controlled study intersection within the study area has been evaluated using the *Highway Capacity Manual 6th Edition* (HCM 6) operations method of analysis. This state-controlled location includes the following intersection:

5. Portola Parkway at SR-241 Ramps

10.1 Impact Criteria and Thresholds

Consistent with the *Caltrans Guide for the Preparation of Traffic Impact Studies,* the following criteria has been utilized to determine project impacts at the aforementioned one (1) state-controlled study intersection:

- Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. Caltrans has established that LOS D is the operating standard for all Caltrans facilities. Caltrans has determined that all state-owned facilities that operate below LOS D should be identified and improved to an acceptable LOS. The *Caltrans Traffic Impact Study Guidelines dated December 2002* states that if an existing State-owned facility operates at less than the target LOS (i.e. LOS D); the existing service level should be maintained.

10.2 Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)

Based on the HCM operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road.

In Chapter 19 of the HCM, only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay.* Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. In contrast, in previous versions of the HCM (1994 and earlier), delay included only stopped delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for signalized intersections are shown in ***Table 10-1***.

10.3 Existing With Project Traffic Conditions

Table 10-2 summarizes the peak hour *Highway Capacity Manual* level of service results at the one (1) state-controlled study intersection within the study area for Existing With Project traffic conditions. The first column (1) of HCM/LOS values in *Table 10-2* presents a summary of Existing traffic conditions. The second column (2) presents Existing With Project traffic conditions based on existing intersection geometry. The third column (3) indicates whether the traffic associated with the Project will have a significant impact based on the significant impact criteria defined in this report.

10.3.1 *Existing Traffic Conditions*

Review of column (1) of *Table 10-2* indicates that the one (1) state-controlled study intersection currently operates at acceptable LOS B during the AM and PM peak hours.

10.3.2 *Existing With Project Traffic Conditions*

Review of columns (2) and (3) of *Table 10-2* indicates that traffic associated with the proposed Project ***will not*** significantly impact the one (1) state-controlled study intersection when compared to the LOS standards and significant impact criteria specified in this report. The one (1) state-controlled study intersection is forecast to continue to operate at acceptable LOS B during the AM and PM peak hours with the addition of Project generated traffic to existing traffic.

10.4 Year 2023 With Project Traffic Conditions

Table 10-3 summarizes the peak hour *Highway Capacity Manual* level of service results at the one (1) state-controlled study intersection within the study area for Year 2023 traffic conditions. The first column (1) of HCM/LOS values in *Table 10-3* presents a summary of existing traffic conditions. The second column (2) presents Year 2023 Without Project traffic conditions based on existing intersection geometry, but without any Project generated traffic. The third column (3) presents future forecast traffic conditions with the addition of project traffic. The fourth column (4) indicates whether the traffic associated with the Project will have a significant impact based on the significant impact criteria defined in this report.

10.4.1 *Year 2023 Without Project Traffic Conditions*

An analysis of future (Year 2023) cumulative traffic conditions indicates that the addition of ambient traffic growth and cumulative project traffic will not adversely impact the one (1) state-controlled study intersection. The one (1) state-controlled study intersection is forecast to continue to operate at an acceptable LOS B during the AM and PM peak hours with the addition of ambient traffic growth and cumulative projects traffic.

10.4.2 *Year 2023 With Project Traffic Conditions*

Review of columns (3) and (4) of *Table 10-3* indicates that traffic associated with the proposed Project ***will not*** significantly impact the one (1) state-controlled study intersection when compared to the LOS standards and significant impact criteria specified in this report. The one (1) state-controlled study intersection is forecast to continue to operate at an acceptable LOS B during the

AM and PM peak hours with the addition of Project generated traffic to Year 2023 cumulative traffic.

10.5 Year 2045 With Project Traffic Conditions

Table 10-4 summarizes the peak hour *Highway Capacity Manual* level of service results at the one (1) state-controlled study intersection within the study area for Year 2045 traffic conditions. The structure of this table is similar to the near-term (Year 2023) capacity analysis summary presented in *Table 10-3.*

10.5.1 *Year 2045 Without Project Traffic Conditions*

An analysis of future (Year 2045) buildout traffic conditions indicates the one (1) state-controlled study intersection will not be adversely impacted. The one (1) state-controlled study intersection is forecast to continue to operate at an acceptable LOS B during the AM and PM peak hours under Year 2045 Without Project traffic conditions.

10.5.2 *Year 2045 With Project Traffic Conditions*

Review of columns (3) and (4) of *Table 10-4* indicates that traffic associated with the proposed Project ***will not*** significantly impact the one (1) state-controlled study intersection when compared to the LOS standards and significant impact criteria specified in this report. The one (1) state-controlled study intersection is forecast to continue to operate at an acceptable LOS B during the AM and PM peak hours with the addition of Project generated traffic to Year 2045 buildout traffic.

Appendix H presents the Existing With Project, Year 2023 With Project, and Year 2045 With Project HCM/LOS calculations for the one (1) state-controlled study intersection.

10.6 Recommended Improvements – Caltrans Analysis

The results of the Caltrans analyses presented in *Tables 10-2* through *10-4* indicate that the proposed Project ***will not*** significantly impact the one (1) state-controlled study intersection under "Existing With Project", "Year 2023 With Project" and "Year 2045 With Project" traffic conditions. As there are no significant impacts, no traffic mitigation measures are required or recommended for the one (1) state-controlled study intersection.

TABLE 10-1
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM 6 METHODOLOGY)[27]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and ≤ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and ≤ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and ≤ 55.0	Long traffic delays At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Very long traffic delays This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high *v/c* ratios. Individual cycle failures are frequent occurrences.
F	≥ 80.0	Severe congestion This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

[27] Source: *Highway Capacity Manual 6*, Chapter 19: Signalized Intersections.

TABLE 10-2

EXISTING WITH PROJECT PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Existing With Project Traffic Conditions		(3) Project Significant Impact
		HCM	LOS	HCM	LOS	Yes/No
5. Portola Parkway at SR-241 Ramps	AM	17.7 s/v	B	17.8 s/v	B	No
	PM	15.8 s/v	B	15.9 s/v	B	No

Notes:

- s/v = seconds per vehicle (delay).
- LOS = Level of Service, please refer to *Table 10-1* for the LOS definitions.
- **Bold Delay/LOS values** indicate unacceptable service levels based on the Caltrans LOS Criteria.

TABLE 10-3
YEAR 2023 PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Year 2023 Without Project Traffic Conditions		(3) Year 2023 With Project Traffic Conditions		(4) Project Significant Impact
		HCM	LOS	HCM	LOS	HCM	LOS	Yes/No
5. Portola Parkway at SR-241 Ramps	AM	17.7 s/v	B	18.5 s/v	B	18.6 s/v	B	No
	PM	15.8 s/v	B	16.7 s/v	B	16.8 s/v	B	No

Notes:

- s/v = seconds per vehicle (delay).
- LOS = Level of Service, please refer to *Table 10-1* for the LOS definitions.
- **Bold Delay/LOS values** indicate unacceptable service levels based on the Caltrans LOS Criteria.

TABLE 10-4
YEAR 2045 PEAK HOUR INTERSECTION CAPACITY ANALYSIS – CALTRANS

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) Year 2045 Without Project Traffic Conditions		(3) Year 2045 With Project Traffic Conditions		(4) Project Significant Impact
		HCM	LOS	HCM	LOS	HCM	LOS	Yes/No
5. Portola Parkway at SR-241 Ramps	AM	17.7 s/v	B	18.9 s/v	B	19.0 s/v	B	No
	PM	15.8 s/v	B	17.9 s/v	B	18.0 s/v	B	No

Notes:

- s/v = seconds per vehicle (delay).
- LOS = Level of Service, please refer to *Table 10-1* for the LOS definitions.
- **Bold Delay/LOS values** indicate unacceptable service levels based on the Caltrans LOS Criteria.

11.0 SITE ACCESS, INTERNAL CIRCULATION, AND SIGHT DISTANCE ANALYSIS

11.1 Site Access

As previously detailed, vehicular access for the proposed Project is proposed via a new full-access unsignalized driveway on El Toro Road. Per direction from the City of Mission Viejo, the following Project feature and driveway configuration options are evaluated in this report to ensure that adequate ingress and egress to the project site is provided. The selected site access option below will be constructed by the proposed Project to ensure that adequate ingress and egress to the project site is provided:

- **Project Feature *(this improvement will be assumed for both options):*** Reconfigure the median to convert the existing eastbound left-turn pocket (providing access to the existing StorageWest facility located directly across El Toro Road from the Project site) into a two-way-left-turn (TWLT) lane connecting to the existing TWLT lane east of the StorageWest facility driveway. Reconfigure the existing raised median west of the Project driveway to provide an acceleration lane for northbound left-turning vehicles exiting the Project site onto westbound El Toro Road.

- **Option #1:** Restripe the No. 3 eastbound through lane along El Toro Road (from Marguerite Parkway to the Project driveway) into an exclusive eastbound right-turn lane with a 300-foot striped deceleration lane for eastbound right-turning vehicles entering the Project site. Restripe the No. 3 eastbound through lane along El Toro Road, east of the Project driveway, to provide a 200-foot protected acceleration lane for northbound right-turning vehicles exiting the Project site onto eastbound El Toro Road. This site access option will remove one (1) existing eastbound through lane along El Toro Road across the Project frontage and may require coordination with OCTA regarding a Master Plan of Arterial Highways (MPAH) Amendment for El Toro Road.

- **Option #2:** Widen El Toro Road to provide a 300-foot deceleration lane, with a 120-foot transition, for eastbound right-turning vehicles entering the Project site. Widen El Toro Road to provide a 200-foot eastbound acceleration lane, with a 120-foot transition, for northbound right-turning vehicles exiting the Project site onto eastbound El Toro Road. This site access option will continue to provide three (3) eastbound through lanes along El Toro Road across the Project frontage.

Figure 11-1 presents the El Toro Road Project feature improvement and Project Driveway Concept Channelization Plan for Option #1.

Table 11-1 summarizes the levels of service at the Project driveway for Year 2023 With Project and Year 2045 With Project traffic conditions for both site access Options #1 and #2. The operations analysis for the Project driveway is based on the *Highway Capacity Manual 6* (HCM 6) methodology for unsignalized intersections.

- For the purposes of this site access driveway analysis, an unsignalized facility is considered to be unacceptable if the project causes an intersection operating at LOS D or better to degrade to LOS E or LOS F, and the traffic signal warrant analysis determines that a traffic signal is justified.

11.1.1 *Year 2023 With Project Traffic Conditions*

As shown in column (1) of *Table 11-1* the Project driveway is forecast to operate at acceptable LOS C or better during the AM and PM peak hours under the Year 2023 With Project traffic conditions for both site access Options #1 and #2.

Appendix I contains the Delay/LOS calculation worksheets for Year 2023 With Project Traffic Conditions.

11.1.2 *Year 2045 With Project Traffic Conditions*

As shown in column (2) of *Table 11-1* the Project driveway is forecast to operate at acceptable LOS D or better during the AM and PM peak hours under the Year 2045 With Project traffic conditions for both site access Options #1 and #2, except for site access Option #2 during the PM peak hour under Year 2045 With Project traffic conditions. It should be noted that the delay reported for the intersection of Project Driveway at El Toro Road represents the minor street approach and it is not uncommon for unsignalized private driveways that have direct access to primary arterials, such as El Toro Road, to operate at an unacceptable LOS due to the limited gaps in traffic and the high volume of traffic on the major street, but technically do not operate as a congested facility similar to a public street intersection since there is no traffic impact to the transportation network. Furthermore, the peak driveway queue can be accommodated entirely within the driveway throat. Based on these considerations, the adverse level of service is not considered significant.

Appendix I also contains the Delay/LOS calculation worksheets for Year 2045 With Project Traffic Conditions.

It should be noted that under site access Option #1, the No. 3 eastbound though lane along El Toro Road is proposed to be converted into an exclusive eastbound right-turn lane spanning from Marguerite Parkway to the Project site (i.e. roadway segment C). While this site access improvement does not entirely remove the No. 3 eastbound lane along El Toro Road, Roadway Segment C will continue to operate at LOS A under all traffic scenarios analyzed in this report with the capacity decreased from 46,900 vehicles per day (i.e. capacity for a 5-lane divided roadway) to 37,500 vehicles per day (i.e. capacity for a 4-lane divided roadway). As such, reclassification of this segment of El Toro Road and site access Option #1 will not cause roadway segment C to degrade to an adverse service level.

TABLE 11-1
PROJECT DRIVEWAY PEAK HOUR CAPACITY ANALYSIS SUMMARY[28]

Key Project Driveway	Time Period	(1) Year 2023 With Project Traffic Conditions				(2) Year 2045 With Project Traffic Conditions			
		Option #1		Option #2		Option #1		Option #2	
		HCM	LOS	HCM	LOS	HCM	LOS	HCM	LOS
6. Project Driveway at El Toro Road	AM	14.3 s/v	B	14.5 s/v	B	17.1 s/v	C	17.5 s/v	C
	PM	19.2 s/v	C	23.5 s/v	C	28.0 s/v	D	**38.4 s/v**	**E**

Notes:

- s/v = seconds per vehicle (delay).
- LOS = Level of Service, please refer to *Table 3-2* for the LOS definitions.
- **Bold Delay/LOS values** indicate unacceptable service levels.

[28] *Appendix I* contains the Delay/LOS calculation worksheets for the Project driveway.

11.2 Traffic Signal Warrant Analysis

Per the City's requirements, the level of service analysis at the unsignalized Project driveway is supplemented with an assessment of the need for signalization of the driveway. This assessment is made on the basis of signal warrant criteria adopted by Caltrans. For this study, the need for signalization is assessed on the basis of the peak-hour traffic signal warrant, Warrant #3, described in the *California Manual on Uniform Traffic Control Devices (MUTCD).* Warrant #3 has two parts:

1. *Part A* evaluates peak hour vehicle delay for traffic on the minor street approach with the highest delay, and
2. *Part B* evaluates peak-hour traffic volumes on the major and minor streets.

This method provides an indication of whether peak-hour traffic conditions or peak-hour traffic volume levels are, or would be, sufficient to justify installation of a traffic signal. Other traffic signal warrants are available; however, they cannot be checked under future conditions (background without and with Project) because they rely on data for which forecasts are not available (such as accidents, pedestrian volume, and four- or eight-hour vehicle volumes).

The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered and further analysis performed when one or more of the warrants is met. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal will have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections.

Table 11-2 presents the Year 2023 with Project and Year 2045 with Project traffic signal warrant analysis results for the proposed Project driveway along El Toro Road (Options #1 and #2).

11.2.1 *Year 2023 With Project Traffic Signal Warrant Analysis*

The results of the peak-hour traffic signal warrant analysis for Year 2023 With Project traffic conditions are summarized in column (1) of *Table 11-2*. The results indicate that the unsignalized Project driveway, for both site access Options #1 and #2, does not have future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and/or Part B for the AM or PM peak hour for Year 2023 With Project traffic conditions. Thus, it is concluded from column (1) of *Table 11-2* that a traffic signal is not warranted at the Project driveway.

11.2.2 *Year 2045 With Project Traffic Signal Warrant Analysis*

The results of the peak-hour traffic signal warrant analysis for Year 2045 With Project traffic conditions are summarized in column (2) of *Table 11-2*. The results indicate that the unsignalized Project driveway, for both site access Options #1 and #2, does not have future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and/or Part B for the AM or PM peak hour for Year 2045 With Project traffic conditions. Thus, it is concluded from column (2) of *Table 11-2* that a traffic signal is not warranted at the Project driveway.

The peak-hour signal warrant worksheets for Year 2023 With Project traffic conditions and Year 2045 With Project traffic conditions are contained in ***Appendix J***.

TABLE 11-2
PROJECT DRIVEWAY TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY[29]

Project Driveway	Time Period	(1) Year 2023 With Project Traffic Conditions				(2) Year 2045 With Project Traffic Conditions			
		Option #1		Option #2		Option #1		Option #2	
		Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?	Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?	Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?	Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?
6. Project Driveway at El Toro Road	AM	No	No	No	No	No	No	No	No
	PM	No	No	No	No	No	No	No	No

Notes:

- Signal warrant checks based on Warrant 3, Part A - Peak-Hour Delay Warrant and Part B - Peak-Hour Volume Warrant contained in the California MUTCD.

[29] *Appendix J* contains the traffic signal warrant analysis worksheets for the Project driveway.

11.3 Internal Circulation

The on-site circulation was evaluated in terms of vehicle-pedestrian conflicts. Based on our review of the preliminary site plan, the overall layout does not create significant vehicle-pedestrian conflict points and the driveway throat lengths are sufficient such that access to residential driveways is not impacted by internal vehicle queuing/stacking. Project traffic is not anticipated to cause significant queuing/stacking on the Project driveway. The on-site circulation is acceptable based on our review of the proposed site plan. The alignment, spacing and throat length of the Project driveway is also deemed adequate. Turning movements into and out of the Project site at the Project driveway are anticipated to operate at an acceptable service levels. The proposed throat length at the Project driveway is sufficient for storing potential queuing vehicles. As such, motorists entering and exiting the Project site from this driveway will be able to do so comfortably, safely, and without undue congestion.

11.4 Sight Distance Evaluation

A sight distance analysis was prepared for the proposed Project driveway along El Toro Road using the City of Mission Viejo Standard Plan No. 315 – *Intersection Sight Distance*. Minimum left and right turn out and cross traffic sight distance was utilized for this evaluation and is defined as the distance required by the driver of a vehicle, traveling at a given speed, to bring his vehicle to a stop after an object on the road becomes visible. Stopping sight distance is measured from the driver's eyes, which are assumed to be 3.5 feet above the pavement surface, to an object 0.5-feet high on the roadway. For this analysis, although El Toro Road will consist of only five lanes in the vicinity of the Project driveway, the 6-lane Major Roadway criteria was utilized to provide for a conservative analysis since the City of Mission Viejo Standard Drawing No. 315 does not provide a minimum sight distance for a 5-lane roadway. Based on the criteria set forth in Standard Drawing No. 315, a minimum sight distance of 660 feet is recommended for the proposed Project driveway on El Toro Road[30].

Figure 11-2 presents a schematic of the sight distance analysis performed at the proposed Project driveway along El Toro Road, which illustrates the actual sight distance and corresponding limited use areas, if any. As shown, adequate sight distance will be provided at the proposed Project driveway along El Toro Road.

[30] Source: City of Mission Viejo Standard Plan No. 315 – *Intersection Sight Distance, Major Roadway*.

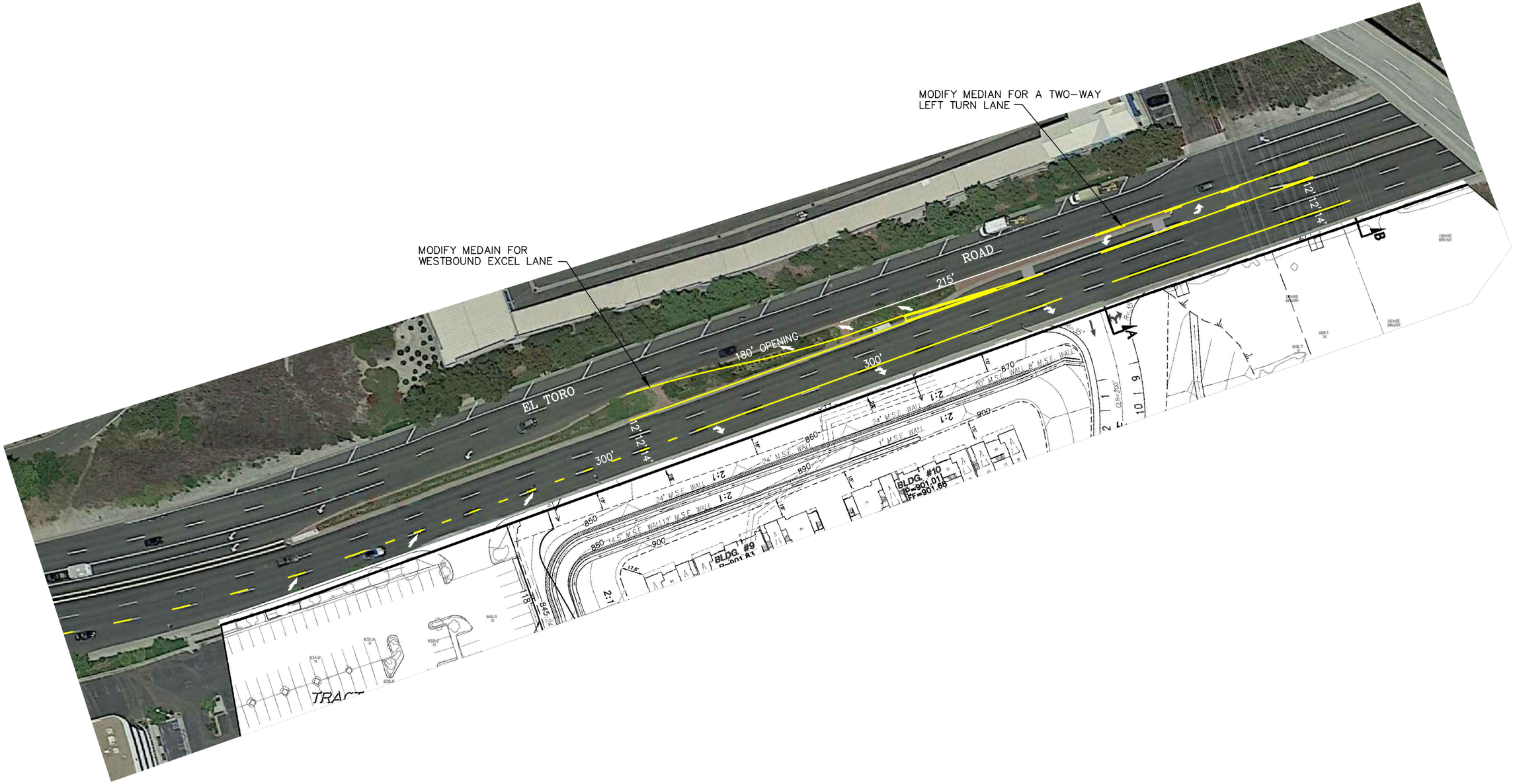

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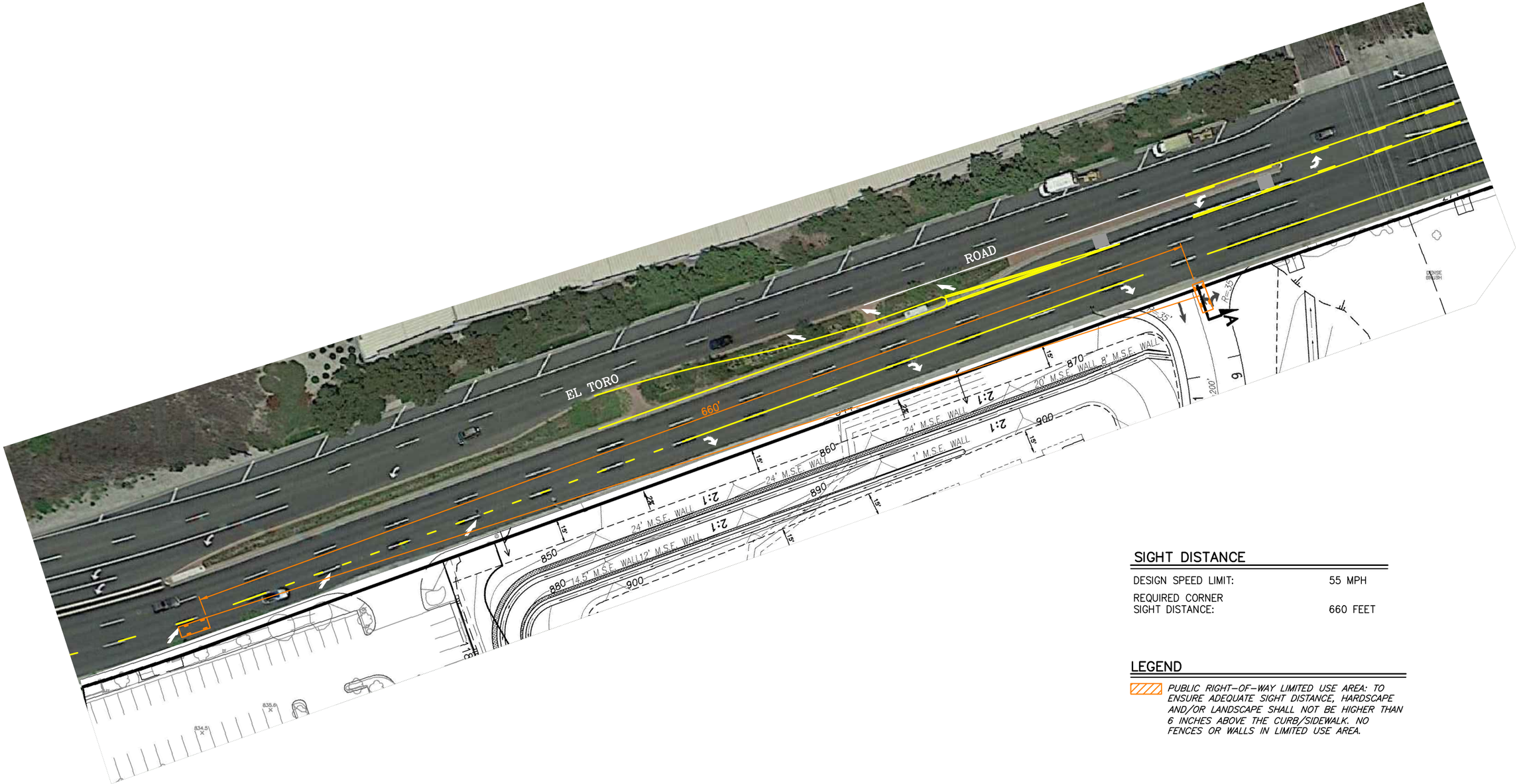
FIGURE 11–1

CONCEPTUAL IMPROVEMENT STRIPING PLAN

NUVO EL TORO RESIDENTIAL, MISSION VIEJO



SIGHT DISTANCE

DESIGN SPEED LIMIT:	55 MPH
REQUIRED CORNER SIGHT DISTANCE:	660 FEET

LEGEND

PUBLIC RIGHT-OF-WAY LIMITED USE AREA: TO ENSURE ADEQUATE SIGHT DISTANCE, HARDSCAPE AND/OR LANDSCAPE SHALL NOT BE HIGHER THAN 6 INCHES ABOVE THE CURB/SIDEWALK. NO FENCES OR WALLS IN LIMITED USE AREA.

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FIGURE 11–2

SIGHT DISTANCE ANALYSIS

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

12.0 AREA-WIDE TRAFFIC IMPROVEMENTS

For those intersections and roadway segments where projected traffic volumes are expected to result in significant impacts, this report recommends traffic improvements that change the intersection and/or roadway segments geometry to increase capacity. These capacity improvements involve roadway widening and/or re-striping to reconfigure (add lanes) roadways to specific approaches of a key intersection and/or roadway segments. The identified improvements are expected to:

1. Address the impact of existing traffic, Project traffic and future non-project (ambient traffic growth and related projects) traffic, and
2. Improve Levels of Service to an acceptable range and/or to pre-project conditions.

12.1 Project-Specific Access Improvements

Per direction from the City of Mission Viejo, the following Project-specific traffic improvement will be implemented to facilitate ingress and egress to the project site:

- **Project Feature *(this improvement will be assumed for both options):*** Reconfigure the median to convert the existing eastbound left-turn pocket (providing access to the existing StorageWest facility located directly across El Toro Road from the Project site) into a two-way-left-turn (TWLT) lane connecting to the existing TWLT lane east of the StorageWest facility driveway. Reconfigure the existing raised median west of the Project driveway to provide an acceleration lane for northbound left-turning vehicles exiting the Project site onto westbound El Toro Road.

- **Option #1:** Restripe the No. 3 eastbound through lane along El Toro Road (from Marguerite Parkway to the Project driveway) into an exclusive eastbound right-turn lane with a 300-foot striped deceleration lane for eastbound right-turning vehicles entering the Project site. Restripe the No. 3 eastbound through lane along El Toro Road, east of the Project driveway, to provide a 200-foot protected acceleration lane for northbound right-turning vehicles exiting the Project site onto eastbound El Toro Road. This site access option will remove one (1) existing eastbound through lane along El Toro Road across the Project frontage and may require coordination with OCTA regarding a Master Plan of Arterial Highways (MPAH) Amendment for El Toro Road.

- **Option #2:** Widen El Toro Road to provide a 300-foot deceleration lane, with a 120-foot transition, for eastbound right-turning vehicles entering the Project site. Widen El Toro Road to provide a 200-foot eastbound acceleration lane, with a 120-foot transition, for northbound right-turning vehicles exiting the Project site onto eastbound El Toro Road. This site access option will continue to provide three (3) eastbound through lanes along El Toro Road across the Project frontage.

Figure 12-1 presents the above-mentioned Project-specific traffic improvement for El Toro Road.

12.2 Existing With Project Traffic Conditions Recommended Improvements

12.2.1 *Intersections*

The results of the intersection analyses for Existing With Project traffic conditions summarized in *Table 7-1* indicate that the proposed Project is not forecast to have a significant impact at any of the five (5) key intersections. As there are no significant impacts, no traffic mitigation measures are required or recommended for the intersections.

12.2.2 *Roadway Segments*

The results of the Existing With Project traffic conditions level of service analyses summarized in *Table 7-2* indicate that the proposed Project is not forecast to have a significant impact at any of the six (6) roadway segments. As there are no significant impacts, no traffic mitigation measures are required or recommended for the roadway segments.

12.3 Year 2023 With Project Traffic Conditions Recommended Improvements

12.3.1 *Intersections*

The results of the intersection analyses for Year 2023 With Project traffic conditions summarized in *Table 8-1* indicate that the proposed Project is not forecast to have a significant impact at any of the five (5) key intersections. As there are no significant impacts, no traffic mitigation measures are required or recommended for the intersections.

12.3.2 *Roadway Segments*

The results of the Year 2023 With Project traffic conditions level of service analyses summarized in *Table 8-2* indicate that the proposed Project is not forecast to have a significant impact at any of the six (6) roadway segments. As there are no significant impacts, no traffic mitigation measures are required or recommended for the roadway segments.

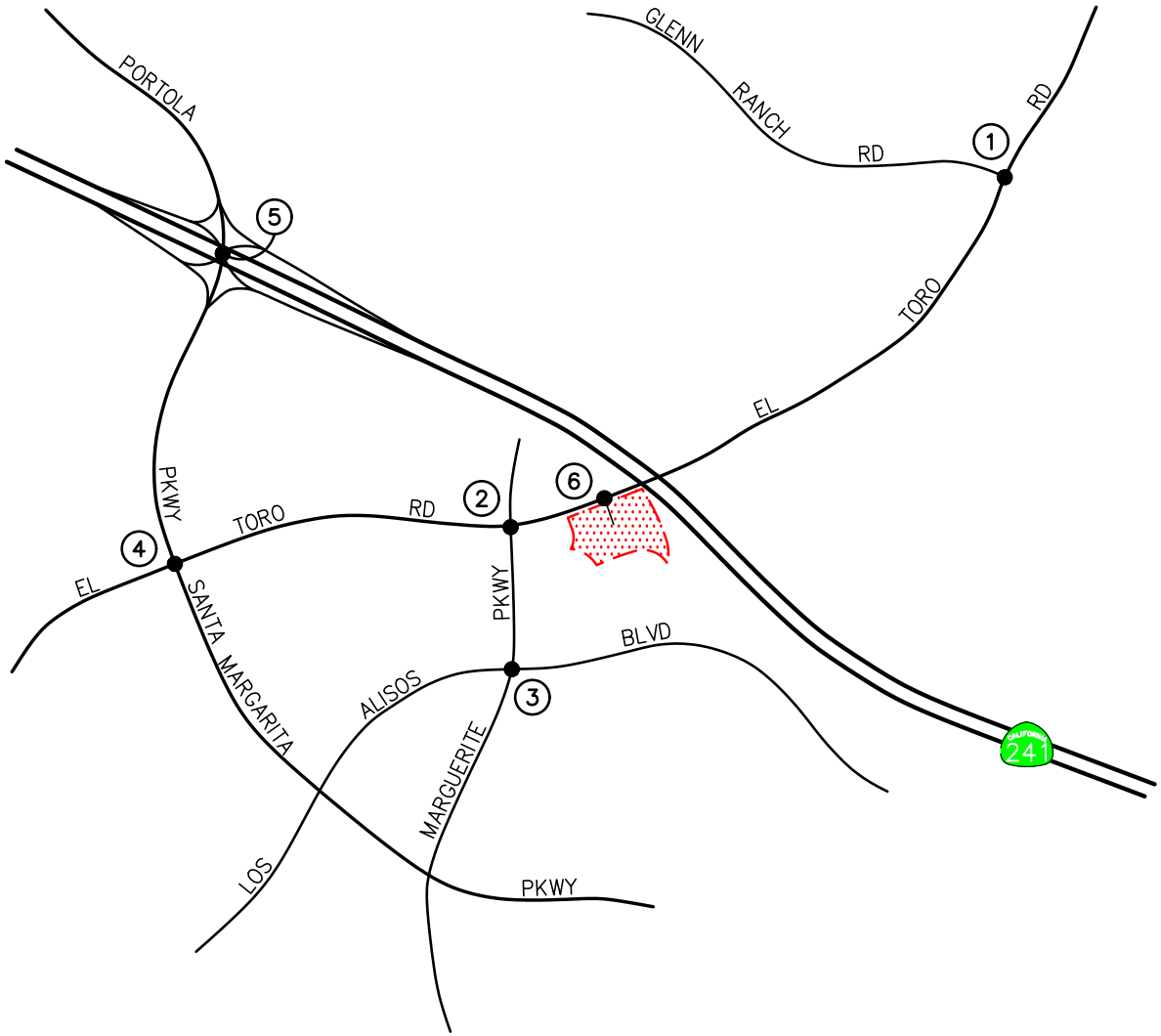
12.4 Year 2045 With Project Traffic Conditions Recommended Improvements

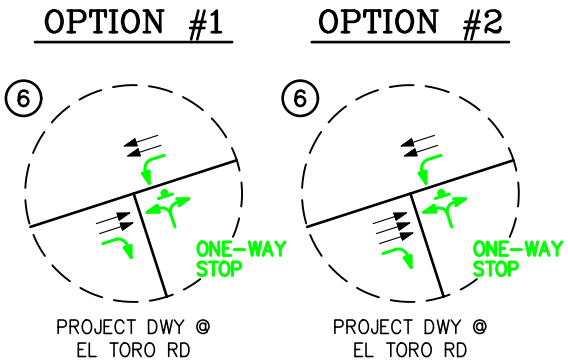
12.4.1 *Intersections*

The results of the intersection analyses for Year 2045 With Project traffic conditions summarized in *Table 9-1* indicate that the proposed Project is not forecast to have a significant impact at any of the five (5) key intersections. As there are no significant impacts, no traffic mitigation measures are required or recommended for the intersections.

12.4.2 *Roadway Segments*

The results of the Year 2045 With Project traffic conditions level of service analyses summarized in *Table 9-2* indicate that the proposed Project is not forecast to have a significant impact at any of the six (6) roadway segments. As there are no significant impacts, no traffic mitigation measures are required or recommended for the roadway segments.





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KEY

= APPROACH LANE ASSIGNMENT
= PROJECT-SPECIFIC IMPROVEMENTS
= STOP SIGN
= PROJECT SITE

FIGURE 12-1

PROJECT-SPECIFIC IMPROVEMENTS

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

13.0 CONGESTION MANAGEMENT PROGRAM (CMP) ANALYSIS

This analysis is consistent with the requirements and procedures outlined in the current *Orange County Congestion Management Program (CMP).* The CMP requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System (HS). Per the CMP guidelines, this number is based on the desire to analyze any impacts that will be 3.0% or more of the existing CMP highway system facilities' capacity.

However, as noted in this traffic study, the proposed Project is expected to generate 666 daily trips, and thus does not meet the criteria required for a CMP traffic analysis. Therefore, it is concluded that the proposed Project will not have any significant traffic impacts on the Congestion Management Program Highway System.

14.0 CONSTRUCTION TRAFFIC IMPACTS

This section of the report summarizes the potential traffic impacts due to construction activities at the Project site. The construction activities associated with the proposed Project consists of 1) site grading/excavation, 2) building foundation/framing/construction and 3) paving/concrete/ landscaping. The following section describes the potential construction related trips associated with each construction activity and provides an assessment as to whether or not the forecast construction trips will have an impact on the existing street system.

14.1 Construction Traffic Trip Generation

In order to forecast the potential construction related trips associated with the construction activities at the project site, the following assumptions, as provided by VCS Environmental, have been utilized for the three aforementioned construction components.

Site Grading/Excavation

- 49,000 cubic yards of soil to be imported during this construction phase.
- A five-day work week (Monday through Friday) and nine-hour workday was assumed.
- The soil import is anticipated to last approximately 110 working days.
- Maximum of 100 delivery/haul trucks per day (i.e. 200 total daily truck trips).
- A total of 10-20 workers will be on the site per day. The TIA assumes a worst case of 20 workers per day.

Building Foundation/Framing/Construction

- Maximum of 26 delivery/concrete/haul trucks per day (i.e. 52 total daily truck trips).
- A five-day work week (Monday through Friday) and nine-hour workday was assumed.
- The building foundation/framing/construction phase is anticipated to last approximately 245 days (i.e. 168 days for plex, 28 days for foundation, and 49 days for framing).
- A maximum of 24 workers will be on the site at one time.

Paving/Concrete/Landscape

- Maximum of 10 delivery/haul trucks per day (i.e. 20 total daily truck trips).
- A five-day work week (Monday through Friday) and nine-hour workday was assumed.
- The paving/concrete/landscaping construction phase is anticipated to last approximately 230 days (i.e. 20 days for paving and 210 days for landscaping).
- A total of 18-24 workers will be on the site per day. The TIA assumes a worst case of 24 workers per day.

In addition to the aforementioned assumptions for each construction component, the following assumptions were utilized for truck trips and employee trips.

- Each truckload requires an inbound trip and an outbound trip.
- The daily number of truck trips was averaged over the nine-hour workday to obtain the number of peak hour truck trips (50% entering and 50% exiting).
- All truck trips were converted to passenger car equivalents (P.C.E.'s) using a P.C.E. factor of 3.0.
- Each worker would make 2 trips per day (one during the AM peak hour and one during the PM peak hour).

Using the aforementioned assumptions, ***Table 14-1*** provides a summary of the forecast construction peak hour and daily traffic volumes for each of the three construction components. Review of the first row of *Table 14-1* shows that the site grading/excavation construction component is expected to generate 640 daily trips with 89 trips produced during the AM peak hour and 89 trips produced during the PM peak hour. Review of the second row of *Table 14-1* shows that the building foundation/framing/construction component is expected to generate 204 daily trips with 42 trips produced during the AM peak hour and 42 trips produced during the PM peak hour. Review of the last row of *Table 14-1* shows that the paving/concrete/landscaping construction component is expected to generate 108 daily trips with 33 trips produced during the AM peak hour and 33 trips produced during the PM peak hour.

14.2 Construction Traffic Assessment

Construction related trips associated with trucks and employees traveling to and from the site in the morning and afternoon may result in some minor traffic delays; however, potential traffic interference caused by construction vehicles would create a temporary/short-term impact to vehicles using El Toro Road in the morning and afternoon hours and the number of construction workers will vary depending on the specific construction activities over time. Traffic impacts to the adjacent roadway network will be minimal and ***not*** long-term.

Although the trip generation potential of the site grading/excavation construction component is greater than the trip generation potential of the proposed Project, it can be qualitatively concluded that this construction component will not significantly impact any of the five (5) key study intersections as these intersections currently operate at acceptable LOS C or better during the AM and PM peak hours and this construction component would not degrade these intersections into an un acceptable level of service. Nevertheless, to reduce the impact of construction-related traffic, the implementation of a construction management plan is recommended to minimize traffic impacts upon the local circulation system in the area.

14.3 Construction Management Plan

To ensure impacts to the surrounding street system are kept a minimum, it is recommended that a Construction Management Plan for the proposed Project be developed. The Construction Management Plan should be developed in coordination with the City of Mission Viejo and at a minimum, address the following:

- Traffic control for any street closure, detour, or other disruption to traffic circulation.
- Identify the routes that construction vehicles will utilize for the delivery of construction materials (i.e. lumber, tiles, piping, windows, etc.), to access the site, traffic controls and detours, and proposed construction phasing plan for the project.
- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.
- Require the Applicant to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material which may have been spilled, tracked, or blown onto adjacent streets or areas.
- Hauling or transport of oversize loads will be allowed between the hours of 9:00 AM and 3:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport will be allowed during nighttime hours, weekends or Federal holidays.
- Use of local streets shall be prohibited.
- Haul trucks entering or exiting public streets shall at all times yield to public traffic.
- If hauling operations cause any damage to existing pavement, street, curb, and/or gutter along the haul route, the applicant will be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer.
- All construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur on-site.
- This Plan shall meet standards established in the current *California Manual on Uniform Traffic Control Device (MUTCD)* as well as City of Mission Viejo requirements.

TABLE 14-1
PROJECT CONSTRUCTION–RELATED TRAFFIC GENERATION

Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Site Grading/Excavation Generation Forecast:							
▪ Construction Truck Traffic (100 Trucks)	200	12	11	23	11	12	23
Passenger Car Equivalent Factor[31]	3	3	3	3	3	3	3
Subtotal	600	36	33	69	33	36	69
▪ Employees (20 Workers)	40	20	0	20	0	20	20
Total Site Grading/Excavation Construction Related Traffic Trip Generation Potential	**640**	**56**	**33**	**89**	**33**	**56**	**89**
Building Foundation/Framing/Construction Generation Forecast:							
▪ Construction Truck Traffic (26 Trucks)	52	3	3	6	3	3	6
Passenger Car Equivalent Factor[31]	3	3	3	3	3	3	3
Subtotal	156	9	9	18	9	9	18
▪ Employees (24 Workers)	48	24	0	24	0	24	24
Total Building Foundation/Framing Construction Related Traffic Trip Generation Potential	**204**	**33**	**9**	**42**	**9**	**33**	**42**
Paving/Concrete/Landscaping Generation Forecast:							
▪ Construction Truck Traffic (10 Trucks)	20	2	1	3	1	2	3
Passenger Car Equivalent Factor[31]	3	3	3	3	3	3	3
Subtotal	60	6	3	9	3	6	9
▪ Employees (24 Workers)	48	24	0	24	0	24	24
Total Paving/Concrete/Landscaping Construction Related Traffic Trip Generation Potential	**108**	**30**	**3**	**33**	**3**	**30**	**33**

[31] A passenger car equivalent factor of 3.0 was applied to the truck trips to convert them into passenger car trips.

15.0 VEHICLE MILES TRAVELED (VMT) ASSESSMENT

The 2019 CEQA Guidelines include an updated Appendix G checklist and a new section (15064.3) that significantly changes how transportation impacts are evaluated under CEQA. Delay-based levels of service are no longer considered a significant impact under CEQA, although the new guidelines do not preclude local agencies from continuing to utilize LOS for roadway planning and project evaluation. Section 15064.3 recommends that a project's transportation impacts be evaluated using vehicle miles traveled (VMT). VMT is simply a calculation of the project's trip generation times the average trip length for a project in that area. Per Section 15064.3(c), local agencies have until July 1, 2020 to fully implement the use of VMT for evaluation of transportation impacts. At this time, the City of Mission Viejo has not yet adopted a method for evaluating VMT or thresholds of significance for projects in the City. The VMT for the proposed Novo El Toro Project has been evaluated using the CalEEMod software. The proposed 91-unit Project is forecast to generate 1,928,504 annual VMT, or approximately 5,284 VMT per day.

APPENDIX A

TRAFFIC STUDY SCOPE OF WORK

MEMORANDUM

To:	Mr. Philip Nitollama, P.E. Traffic Engineer City of Mission Viejo	Date:	April 7, 2020
From:	Keil D. Maberry, P.E., Principal Daniel A. Kloos, P.E., Associate Principal Linscott, Law & Greenspan, Engineers	LLG Ref:	2.20.4269.1
Subject:	Nuvo El Toro Residential Project, Mission Viejo		

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Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit the following Traffic Study Scope of Work for the proposed Nuvo El Toro Residential Project in the City of Mission Viejo for your review and approval.

Traffic Study Scope of Work

The Traffic Impact Analysis for the proposed Nuvo El Toro Residential Project will satisfy the traffic impact requirements of the *City of Mission Viejo* and be consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Orange County.*

A. Project Location: The proposed Project site consists of approximately 3.50 acres of vacant land located on the southwest quadrant of El Toro Road and the SR-241 Toll Road in the City of Mission Viejo, California. See the attached vicinity map and existing aerial photograph of the Project site – ***Figure 1-1*** and ***Figure 2-1*.**

B. Project Description: The proposed Project will consist of 91 attached townhouse condominiums. Access for the proposed Project is proposed via a new full access unsignalized driveway on El Toro Road. A deceleration lane will also be provided at the proposed Project driveway. See the attached proposed site plan – ***Figure 2-2***.

C. Project Study Area: The following five (5) key study intersections, one (1) project driveway and four (4) key roadway segments and have been selected for evaluation based on discussions with City of Mission Viejo Public Works Department staff. The jurisdiction where each key study intersection/roadway segment is located is also identified.

Key Study Intersections

1. Glenn Ranch Road at El Toro Road (Mission Viejo)
2. Marguerite Parkway/Saddleback Church at El Toro Road (Mission Viejo)
3. Marguerite Parkway at Los Alisos Boulevard (Mission Viejo)

Philip M. Linscott, PE (1924-2000)
Jack M. Greenspan, PE (Ret.)
William A. Law, PE (Ret.)
Paul W. Wilkinson, PE
John P. Keating, PE
David S. Shender, PE
John A. Boarman, PE
Clare M. Look-Jaeger, PE
Richard E. Barretto, PE
Keil D. Maberry, PE

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4. Santa Margarita Parkway/Portola Parkway at El Toro Road (Lake Forest)
5. Portola Parkway at SR-241 Ramps (Lake Forest/Caltrans)

-- Project Driveway at El Toro Road (Mission Viejo)

Key Roadway Segments

A. El Toro Road, between Glenn Ranch Road and Cielo Entrada (Lake Forest)
B. El Toro Road, between Marguerite Parkway/Saddleback Church and Glen Ranch Road (Mission Viejo)
C. El Toro Road, between Santa Margarita Parkway/Portola Parkway and Marguerite Parkway/Saddleback Church (Lake Forest)
D. Portola Parkway, between El Toro Road and SR-241 Ramps (Lake Forest)

D. Traffic Counts: Historical traffic counts for the above listed five (5) key study intersections and four (4) key roadway segments will either be provided by City of Mission Viejo staff and/or Traffic Count Companies and will be adjusted with a 1% per year growth factor to Year 2020. (Please note that based on our research, all historical data is from 2018, 2019 or 2020, except for key roadway segment D, which is 2017). The historical data will be grown, accordingly, at 1% per year to Year 2020 existing baseline conditions.

E. Project Traffic Generation: The trip generation potential of the proposed Project will be estimated using ITE Land Use 220: Multifamily Housing Low-Rise rates contained in the 10th Edition of *Trip Generation,* published by the Institute of Transportation Engineers (ITE), [Washington, D.C., 2017]. The proposed Project is forecast to generate 666 daily trips, with 42 trips (10 inbound, 32 outbound) produced in the AM peak hour and 51 trips (32 inbound, 19 outbound) produced in the PM peak hour on a "typical" weekday. See attached project traffic generation forecast – ***Table 5-1.***

F. Project Traffic Distribution Pattern: See attached project traffic distribution pattern – ***Figure 5-1***. The trip distribution pattern was developed based on the following considerations:

- directional flows on the freeways in the immediate vicinity of the project site (i.e. SR-241 Freeway),
- the site's proximity to major traffic carriers (i.e. El Toro Road),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals, and
- ingress/egress availability at the project site.

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G. Year 2023 Cumulative Traffic:

- Project Completion: Year 2023
- Ambient Growth Rate: 1.0% per year
- Cumulative Projects: Obtain information regarding cumulative projects in the vicinity of the proposed project (i.e. 2-mile radius) from the City of Mission Viejo, City of Lake Forest, City of Rancho Santa Margarita and the County of Orange.

H. Long-Term (Year 2040) Buildout Traffic: Long-term (Year 2040) traffic volume forecasts for the key study intersections and key roadway segments will be developed via the use of the OCTAM 5.0 approved traffic model.

I. Analysis Scenarios: The following traffic analysis scenarios will be prepared for the proposed Project.

(a) Existing Traffic Conditions;
(b) Existing Plus Project Traffic Conditions;
(c) Scenario (b) with Mitigation, if necessary;
(d) Year 2023 Cumulative Traffic Conditions (Existing plus Ambient Growth plus Cumulative Projects);
(e) Year 2023 Cumulative Plus Project Traffic Conditions,
(f) Scenario (e) with Mitigation, if necessary;
(g) Year 2040 Buildout Traffic Conditions;
(h) Year 2040 Buildout Plus Project Traffic Conditions, and
(i) Scenario (h) with Mitigation, if necessary.

The LOS calculations will be based on the ICU methodology for signalized intersections and the Highway Capacity Manual 6 (HCM 6) methodology for unsignalized intersections. For the signalized intersections based on the ICU methodology, the following parameters will be utilized:

- Saturation Flow-Rate = 1,700 vehicles per lane per hour (vplph) for all movements (left-turn, through and right-turn lanes)
- Clearance Factor = 0.05

It should be noted that all Caltrans-controlled study intersections will also be analyzed utilizing the Highway Capacity Manual (HCM) methodology.

The daily operating conditions for the four (4) key roadway segments will be investigated according to the daily volume-to-capacity (V/C) ratio of each link for

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the aforementioned traffic analysis scenarios and will utilize County of Orange impact thresholds.

J. Impact Criteria and Thresholds:

City of Mission Viejo: The City of Mission Viejo considers LOS D to be the minimum acceptable condition that should be maintained during the AM and PM peak hours for all intersections. Impacts to local and regional transportation systems shall be considered significant if the Project increases traffic demand at a key signalized intersection by 1.0% of capacity (ICU increase ≥ 0.01), causing or worsening LOS E or F (ICU > 0.90).

At key unsignalized study intersections, a "significant" traffic impact is defined as a Project that adds 1.0 second of delay at an intersection operating at LOS E or F.

City of Lake Forest: The City of Lake Forest considers LOS D to be the minimum acceptable condition that should be maintained during the AM and PM peak hours for all intersections. Impacts to local and regional transportation systems shall be considered significant if the Project increases traffic demand at a key study intersection by 1.0% of capacity (ICU increase ≥ 0.01), causing or worsening LOS E or F (ICU > 0.90).

At key unsignalized study intersections, a "significant" traffic impact is defined as a Project that adds 1.0 second of delay at an intersection operating at LOS E or F.

K. Other Issues:

- Evaluate Site Access and Internal Circulation.
- Traffic Signal Warrants, as needed.
- Project Fair-Share Calculation Analysis.
- VMT discussion; the TIA will include the estimated Project VMT forecast.
- Congestion Management Program (CMP) Analysis.
- Project Construction Traffic Impact Analysis.

We appreciate the opportunity to provide this scope of work. Should you have any questions, please call us at (949) 825-6175. Thank you.

Approved by:

Philip Nitollama

City of Mission Viejo

4/7/2020

Date

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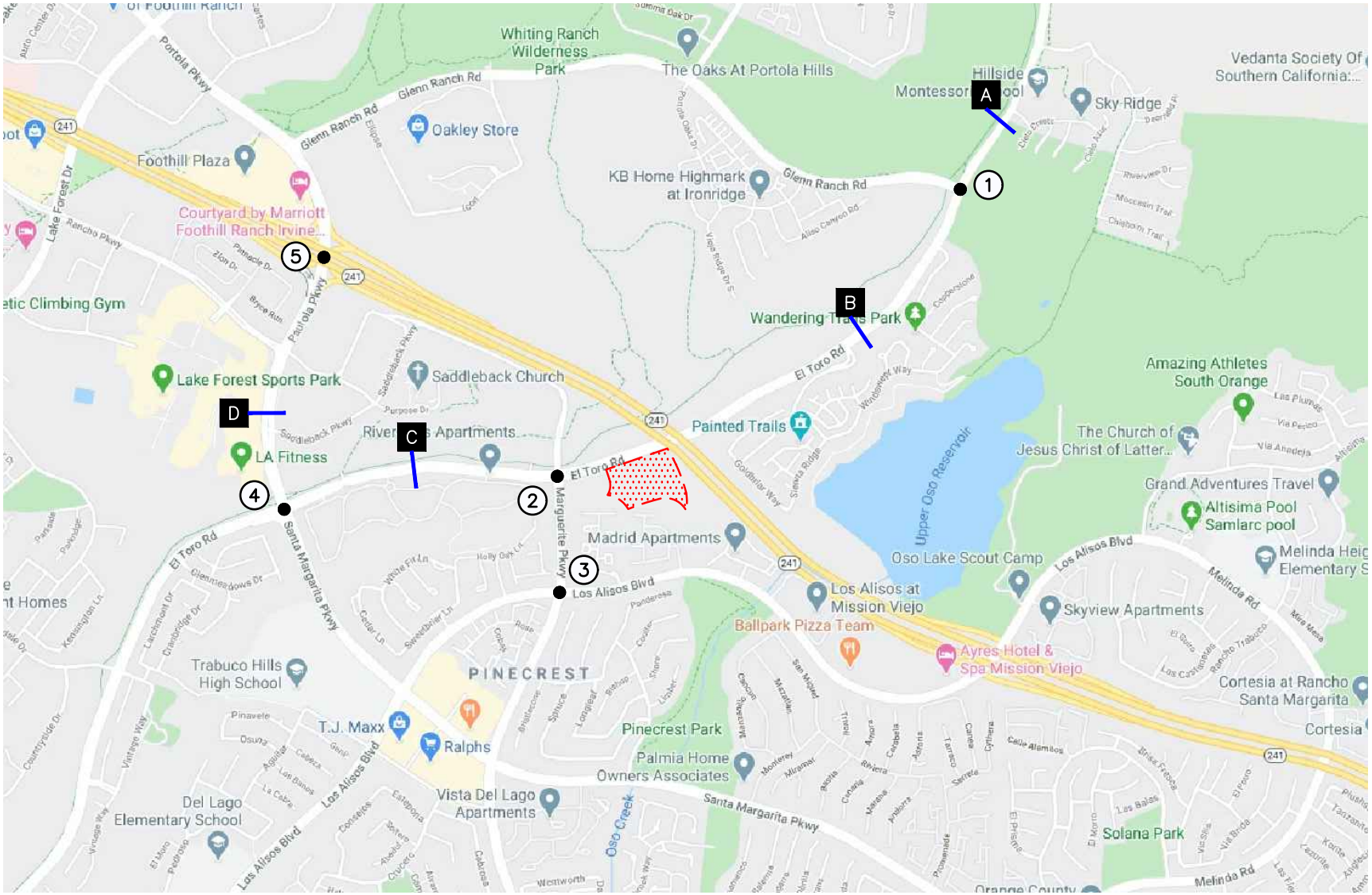
TABLE 5-1
PROJECT TRAFFIC GENERATION RATES AND FORECAST[1]
NUVO EL TORO RESIDENTIAL PROJECT, MISSION VIEJO

ITE Land Use Code / Project Description	Daily	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Factors:							
▪ 220: Multifamily Housing Low-Rise (TE/DU)	7.32	23%	77%	0.46	63%	37%	0.56
Proposed Project Trip Generation Forecast:							
▪ Nuvo El Toro Residential Project (91 DU)	666	10	32	42	32	19	51

Notes:
- TE/DU = Trip end per dwelling unit

[1] Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).



n:\4200\2204269 – nuvo el toro residential, mission viejo\dwg\4269 f1-1.dwg LDP 20:16:00 04-06-2020 tucker

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

(#) = STUDY INTERSECTION

[#] = STUDY ROADWAY SEGMENT

= PROJECT SITE

FIGURE 1-1

VICINITY MAP

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

n:\4200\2204269 - nuvo el toro residential, mission viejo\dwg\4269 f2-1.dwg LDP 11:32:56 03-26-2020 tucker

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

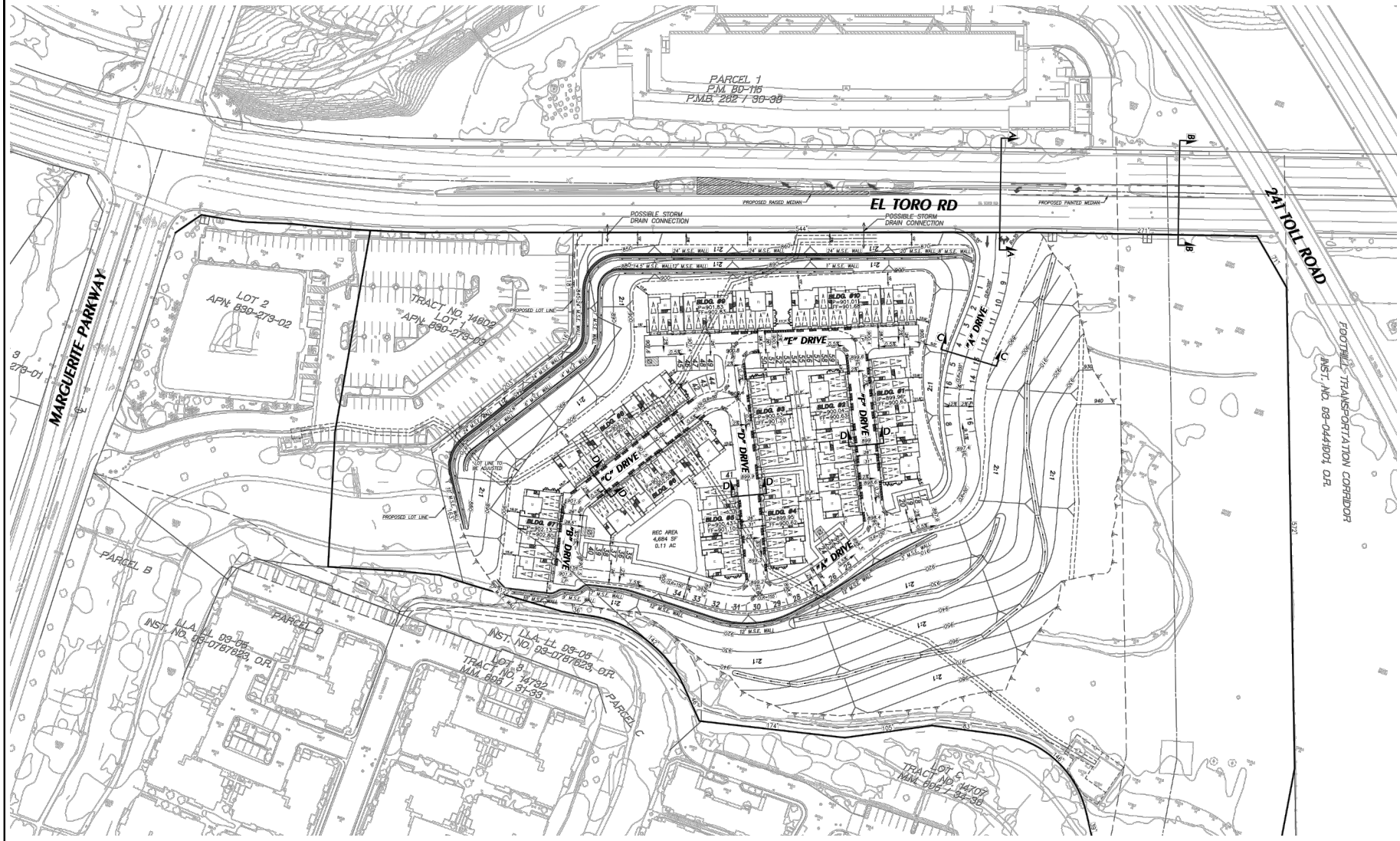
KEY

= PROJECT SITE

FIGURE 2-1

EXISTING SITE AERIAL

NUVO EL TORO RESIDENTIAL, MISSION VIEJO



SOURCE: HUNSAKER & ASSOCIATES

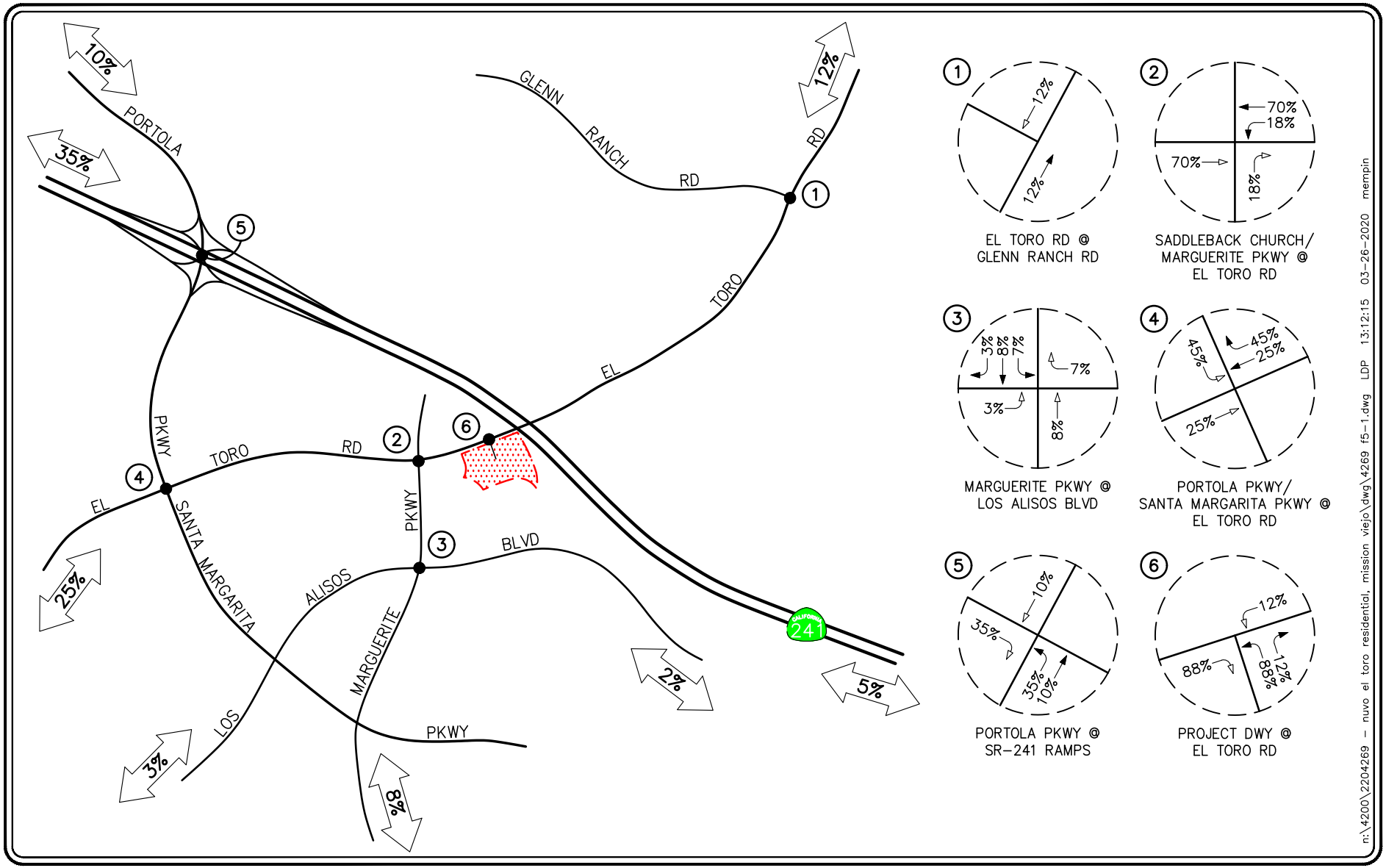
LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 2-2

PROPOSED SITE PLAN

NUVO EL TORO RESIDENTIAL, MISSION VIEJO



EL TORO RD @ GLENN RANCH RD

SADDLEBACK CHURCH/ MARGUERITE PKWY @ EL TORO RD

MARGUERITE PKWY @ LOS ALISOS BLVD

PORTOLA PKWY/ SANTA MARGARITA PKWY @ EL TORO RD

PORTOLA PKWY @ SR-241 RAMPS

PROJECT DWY @ EL TORO RD

n:\4200\2204269 - nuvo el toro residential, mission viejo\dwg\4269 f5-1.dwg LDP 13:12:15 03-26-2020 mempin

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTERSECTION

⇦ = INBOUND PERCENTAGE

⬅ = OUTBOUND PERCENTAGE

▒ = PROJECT SITE

FIGURE 5-1

PROJECT TRAFFIC DISTRIBUTION PATTERN

NUVO EL TORO RESIDENTIAL, MISSION VIEJO

APPENDIX B

EXISTING PUBLIC TRANSIT ROUTES, BICYCLE AND PEDESTRIAN TRAILS INFORMATION

APPENDIX B-I

EXISTING PUBLIC TRANSIT ROUTE SCHEDULES AND MAPS

OCBUS
OCbus.com

System Map

- 1 — Routes offering 15 minutes (or less) Weekday rush hour frequency
- 1 — Local Routes (1-99)
- 100 — Community Routes (100-199)
- 200 — OC Express Routes (200-299) Weekday Rush Hour Only
- 400 — Metrolink Stationlink Routes (400-499) Weekday Rush Hour Only
- 500 — Bravo Limited Stop Service (500-599)
- 700 — Express Service (700-799) Weekday Rush Hour Only
- 800 — City Shuttle
- Rail Stations
- OC Bus Transit Centers

Effective Febrauary 9, 2020

OC Flex Zones

Unlimited rides only $5 a day!
Zones serving parts of Huntington Beach/ Westminster and Aliso Viejo/Laguna Niguel/ Mission Viejo.

Learn more on page 158.

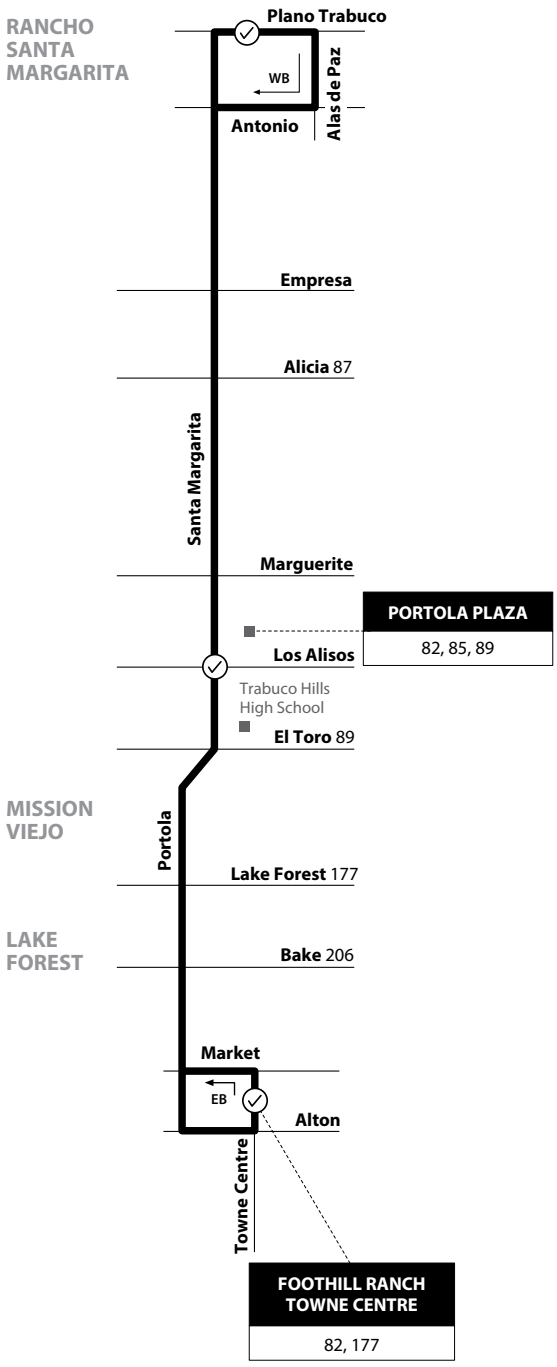
OCFLEX

North
Map not to scale

NOTE: No weekend service.
NOTA: *No hay servicio los fines de semana.*

Foothill Ranch to Rancho Santa Margarita
via Portola Pkwy / Santa Margarita Pkwy

82



LEGEND
LEYENDA

Scheduled Departure

Regular Routing

N

MAP NOT TO SCALE

Route 082/081819

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Monday - Friday
EASTBOUND To: Rancho Santa Margarita

Towne Centre & Alton	Mustang Run & Los Alisos	Santa Margarita & Los Alisos	Plano Trabuco & Alas De Paz
4:51	•••••	4:58	5:09
5:53	•••••	6:02	6:13
6:57	•••••	7:08	7:28
8:13	•••••	8:23	8:38
9:18	•••••	9:28	9:43
6:29	•••••	6:39	6:53
7:34	•••••	7:44	7:58

Effective March 23, OCTA will temporarily implement a Sunday Service schedule on all days for fixed routes to help protect the health of the public and OCTA employees, while still providing critical OC Bus service. Information: ocbus.com

Monday - Friday
WESTBOUND To: Foothill Ranch

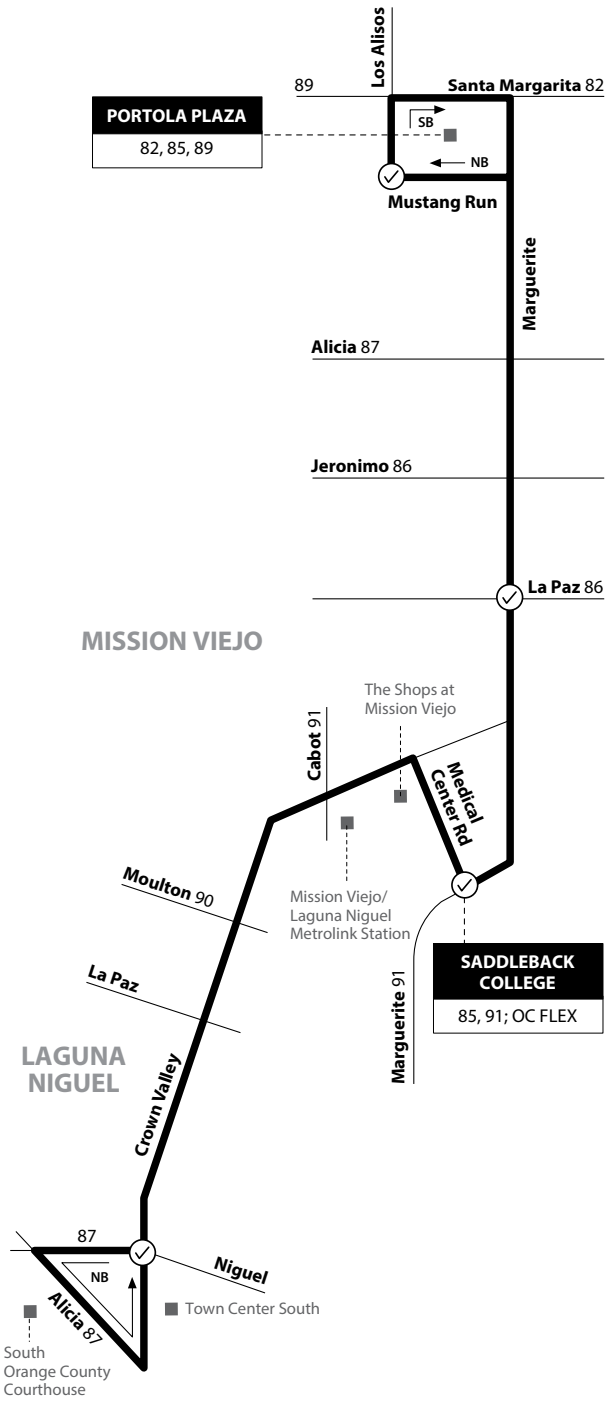
	Plano Trabuco & Alas De Paz	Santa Margarita & Los Alisos	Towne Centre & Alton
	5:10	5:25	5:35
	6:20	6:38	6:51
M	7:11	7:28	
	7:30	7:48	8:01
	8:40	8:54	9:05
	9:45	9:59	10:09
	10:50	11:04	11:14
	11:55	12:09	12:19
	1:00	1:14	1:24
	2:17	2:31	2:41
	3:20	3:37	3:51
	4:35	4:52	5:06
	5:50	6:07	6:21
	7:00	7:14	7:23

S = Operates Tuesday, Wednesday, Thursday, Friday when Trabuco Hills High School is in session.
= *Opera los días que Trabuco Hills High School está en sesión.*
T = Operates Mondays when Trabuco Hills High School is in session.
= *Opera los días que Trabuco Hills High School está en sesión.*
M = Operates on days Trabuco Hills High School is in session.
= *Opera los días que Trabuco High School está en sesión.*

NOTE: No weekend service.
NOTA: *No hay servicio los fines de semana.*

Mission Viejo to Laguna Niguel
via Marguerite Pkwy / Crown Valley Pkwy

85



LEGEND
LEYENDA

Scheduled Departure

Regular Routing

N
MAP NOT TO SCALE

Route 085/040619

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Monday - Friday
NORTHBOUND To: Mission Viejo

Niguel & Crown Valley	Saddleback College	Marguerite & La Paz	Los Alisos & Mustang Run
6:29	6:49	7:04	7:17
7:29	7:49	8:04	8:1[illegible]
8:29	8:51	9:06	9:[illegible]0
9:29	9:51	10:06	[illegible]:20
10:29	10:51	11:06	11:20
7:29	[illegible]:47	8:02	8:14
8:29	[illegible]:47	8:58	9:09

Effective March 23, OCTA will temporarily implement a Sunday Service schedule on all days for fixed routes to help protect the health of the public and OCTA employees, while still providing critical OC Bus service. Information: ocbus.com

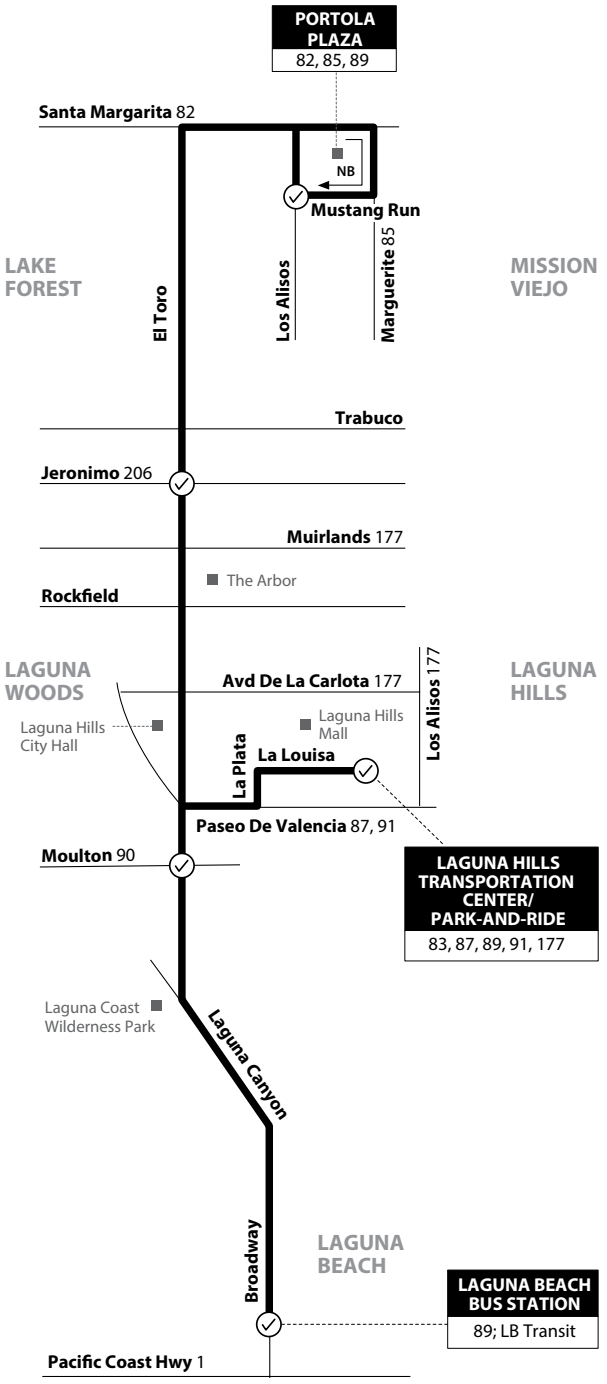
Monday - Friday
SOUTHBOUND To: Laguna Niguel

Los Alisos & Mustang Run	Marguerite & La Paz	Saddleback College	Niguel & Crown Valley
5:35	5:46	6:01	6:19
6:29	6:42	7:00	7:19
7:29	7:42	8:00	8:19
8:29	8:42	9:00	9:19
9:30	9:43	9:59	10:19
10:30	10:43	10:59	11:19
11:30	11:43	11:59	12:19
12:29	12:42	12:57	1:19
1:29	1:42	1:57	2:19
2:29	2:42	2:57	3:19
3:29	3:42	3:57	4:19
4:30	4:45	4:58	5:19
5:30	5:45	5:58	6:19
6:36	6:48	6:59	7:19
7:36	7:48	7:59	8:19
8:38	8:49	8:59	9:19
9:23	9:34	9:44	10:04

89

Mission Viejo to Laguna Beach

via El Toro Rd / Laguna Canyon Rd



LEGEND
LEYENDA

Scheduled Departure

Regular Routing

LB Transit = Laguna Beach Transit

N

MAP NOT TO SCALE

Route 089/121118

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Effective March 23, OCTA will temporarily implement a Sunday Service schedule on all days for fixed routes to help protect the health of the public and OCTA employees, while still providing critical OC Bus service. Information: ocbus.com

Monday - Friday NORTHBOUND To: Mission Viejo

Laguna Beach Bus Station	El Toro & Moulton	Laguna Hills Trans-portation Center	El Toro & Jeronimo	Los Alisos & Mustang Run
5:20	5:33	5:39	5:52	6:05
5:49	6:04	6:12	6:26	6:41
1:02	1:19	1:29	1:47	2:02
1:50	2:07	2:14	2:30	2:44
2:27	2:50	2:59	3:1[illegible]	3:31
2:57	3:20	3:29	3:47	4:01
3:27	3:50	3:59	4:17	4:31
3:57	4:20	4:29	4:47	5:01
4:27	4:50	4:59	5:17	5:31
4:58	5:21	5:[illegible]9	5:48	6:06
5:28	5:51	5:59	6:18	6:36
6:17	6:33	6:39	6:56	7:10
7:25	7:38	7:44	7:57	8:09
8:25	8:[illegible]	8:44	8:57	9:09
9:25	9:38	9:44	9:57	10:09

Monday - Friday SOUTHBOUND To: Laguna Beach

Los Alisos & Mustang Run	El Toro & Jeronimo	Laguna Hills Trans-portation Center	El Toro & Moulton	Laguna Beach Bus Station
4:45	4:54	5:05	5:13	5:27
5:21	5:30	5:41	5:50	6:05
12:19	12:30	12:45	12:55	1:11
1:04	1:15	1:30	1:40	1:56
1:47	1:59	2:15	2:24	2:42
2:32	2:44	3:00	3:09	3:27
3:17	3:29	3:45	3:54	4:12
3:47	3:59	4:15	4:26	4:46
4:17	4:29	4:45	4:56	5:16
4:47	4:59	5:15	5:26	5:46
5:17	5:29	5:45	5:56	6:16
5:47	5:59	6:15	6:26	6:46
6:16	6:28	6:44	6:55	7:15
7:22	7:34	7:45	7:53	8:08
8:22	8:34	8:45	8:53	9:08
9:29	9:41	9:52	10:00	10:15

Saturday, Sunday & Holiday NORTHBOUND To: Mission Viejo

Laguna Beach Bus Station	El Toro & Moulton	Laguna Hills Trans-portation Center	El Toro & Jeronimo	Los Alisos & Mustang Run
6:12	6:27	6:32	6:45	6:56
7:12	7:27	7:32	7:45	7:56
8:13	8:29	8:37	8:52	9:05
9:23	9:39	9:47	10:02	10:15
10:33	10:49	10:57	11:12	11:25
11:40	11:59	**12:07**	**12:26**	**12:39**
12:50	**1:09**	**1:17**	**1:36**	**1:49**
2:00	**2:19**	**2:27**	**2:46**	**2:59**
3:10	**3:29**	**3:37**	**3:56**	**4:09**
4:17	**4:43**	**4:50**	**5:06**	**5:19**
5:30	**5:49**	**5:57**	**6:16**	**6:29**
6:39	**6:55**	**7:02**	**7:13**	**7:28**
7:39	**7:55**	**8:02**	**8:13**	**8:28**
8:39	**8:55**	**9:02**	**9:13**	**9:28**

Saturday, Sunday & Holiday SOUTHBOUND To: Laguna Beach

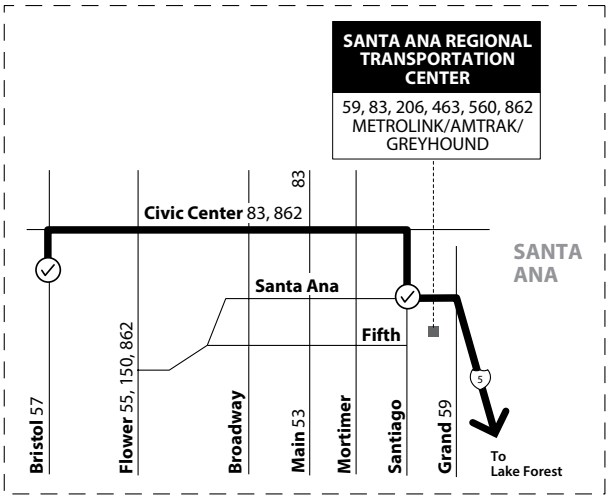
Los Alisos & Mustang Run	El Toro & Jeronimo	Laguna Hills Trans-portation Center	El Toro & Moulton	Laguna Beach Bus Station
4:57	5:06	5:18	5:26	5:44
6:02	6:11	6:23	6:31	6:49
7:07	7:16	7:28	7:36	7:54
8:08	8:21	8:38	8:49	9:07
9:18	9:31	9:48	9:59	10:17
10:28	10:41	10:58	11:09	11:27
11:39	11:52	**12:08**	**12:19**	**12:36**
12:49	**1:02**	**1:18**	**1:30**	**1:51**
1:59	**2:12**	**2:28**	**2:39**	**2:56**
3:09	**3:22**	**3:38**	**3:49**	**4:06**
4:21	**4:34**	**4:48**	**4:58**	**5:14**
5:31	**5:44**	**5:58**	**6:08**	**6:24**
6:40	**6:51**	**7:03**	**7:12**	**7:28**
7:40	**7:51**	**8:03**	**8:12**	**8:28**

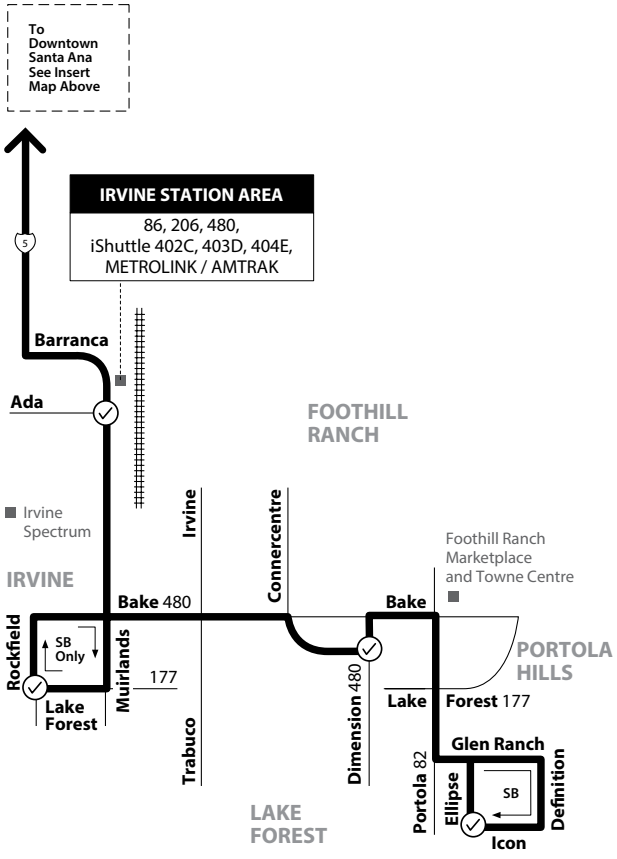
Operates Saturday Only.
Unicamente los sabados.

206 Santa Ana to Lake Forest Express

via 5 Fwy

NOTE: No weekend service.
NOTA: *No hay servicio los fines de semana.*





LEGEND
LEYENDA

Scheduled Departure

Regular Routing

N
MAP NOT TO SCALE

Route 206/111519

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Monday - Friday
SOUTHBOUND To: Lake Forest

Bristol & Civic Center	Santa Ana & Santiago	Barranca & Ada	Rockfield & Lake Forest	Dimension & Commercentre	Icon & Ellipse	
5:50	5:58	6:11	6:18	6:2[illegible]	6:38	AM
6:20	6:32	6:47	6:57	7:09	7:17	

Effective March 23, OCTA will temporarily implement a Sunday Service schedule on all days for fixed routes to help protect the health of the public and OCTA employees, while still providing critical OC Bus service. Information: ocbus.com

Monday - Friday
NORTHBOUND To: Santa Ana

Icon & Ellipse	Commercentre & Dimension	Rockfield & Lake Forest	Barranca & Ada (F)	Santa Ana & Santiago (F)	Bristol & Civic Center (F)	
3:20	3:30	3:50	4:00	4:26	4:35	PM
4:00	4:10	4:25	4:35	5:09	5:20	

F = Times are approximate/
Los horarios son aproximados.

SERVICE TO / SERVICIO A

Santa Ana
- Orange County High School of the Arts
- Santa Ana Civic Center
- County Courthouse
- Orange County Central Jail
- Ronald Reagan Federal Courthouse
- Santa Ana Regional Transportation Center (Metrolink/Amtrak/Greyhound)

Irvine
- Irvine Station (Metrolink/Amtrak)
- Irvine Spectrum

Lake Forest

Foothill Ranch
- Foothill Ranch Marketplace and Towne Centre

APPENDIX B-II

BICYCLE AND PEDESTRIAN TRAILS MAP

Vicinity Map | WHITING RANCH WILDERNESS PARK

Mailing address:
P.O. Box 156, Trabuco Canyon, CA 92678
949-923-2245 • whitingranch@ocparks.com
www.ocparks.com/whitingranch

WILDERNESS PARK

Whiting Ranch Wilderness Park

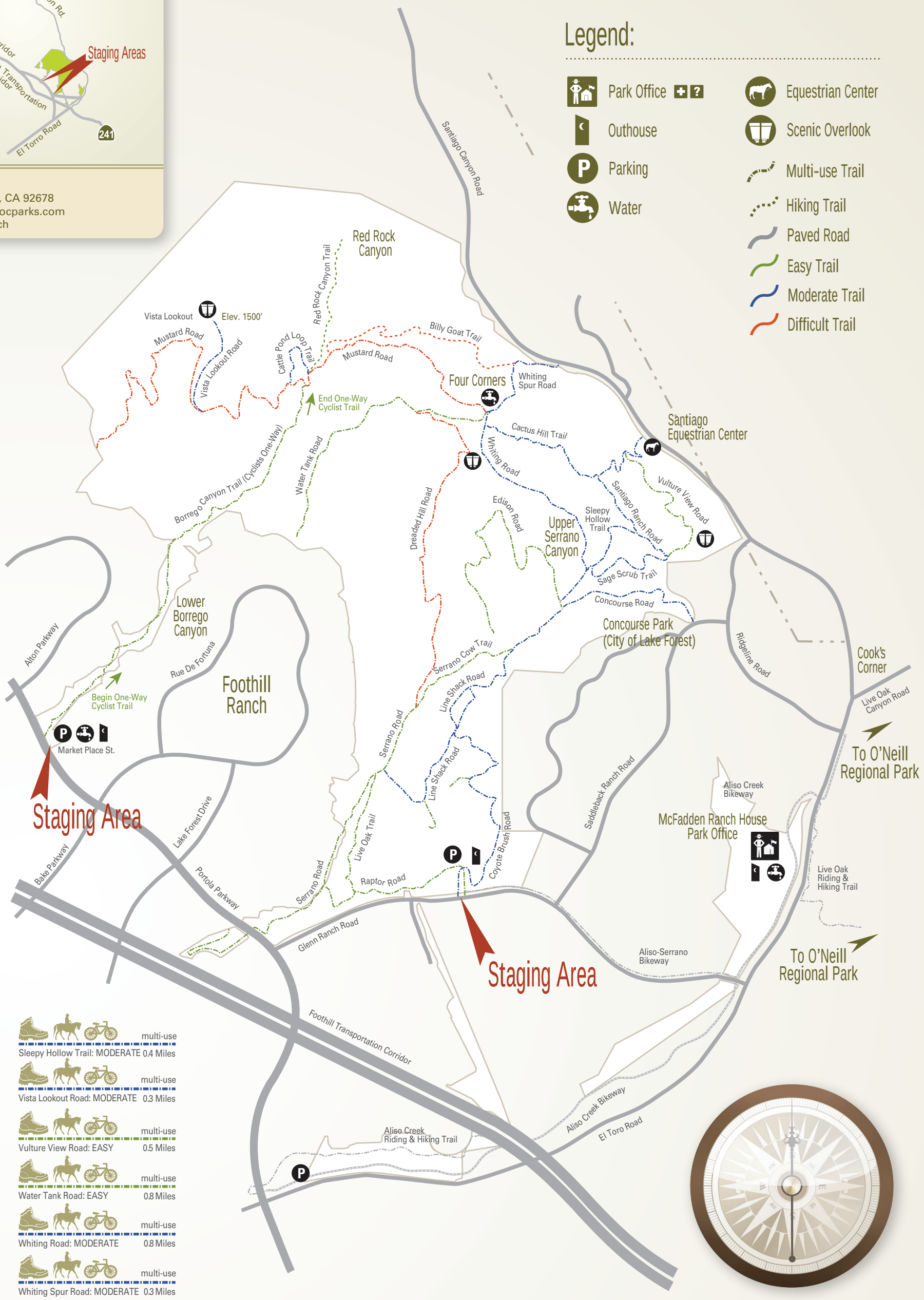
DAY USE: 7:00 A.M. - SUNSET

2500 ACRES FOR HORESBACK RIDING, HIKING AND WORLD-CLASS MOUNTAIN BIKING • EVER SEE A RED-TAILED HAWK? • HIKE TO A SANDSTONE CANYON

OC parks

Legend:

- Park Office
- Outhouse
- Parking
- Water
- Equestrian Center
- Scenic Overlook
- Multi-use Trail
- Hiking Trail
- Paved Road
- Easy Trail
- Moderate Trail
- Difficult Trail



Trail Guide:

Trail	Use	Length
Billy Goat Trail: DIFFICULT	hiking only	0.9 Miles
Borrego Canyon Trail: EASY	multi-use bikes one-way	1.3 Miles
Cactus Hill Trail: MODERATE	multi-use	0.6 Miles
Cattle Pond Loop Trail : MODERATE	multi-use	0.2 Miles
Concourse Road: MODERATE	multi-use	0.4 Miles
Coyote Brush Road: MODERATE	multi-use	0.8 Miles
Dreaded Hill Road: DIFFICULT	multi-use	1.2 Miles
Edison Road: EASY	multi-use	1.1 Miles
Live Oak Trail: EASY	multi-use	0.5 Miles
Line Shack Road: MODERATE	multi-use	0.8 Miles
Mustard Road: DIFFICULT	multi-use	2.8 Miles
Raptor Road: EASY	multi-use	0.4 Miles
Red Rock Canyon Trail: EASY	hiking only	0.5 Miles
Sage Scrub Trail: MODERATE	multi-use	0.4 Miles
Santiago Ranch Road: MODERATE	multi-use	0.6 Miles
Serrano Road: EASY	multi-use	0.9 Miles
Serrano Cow Trail: EASY	multi-use	0.4 Miles
Sleepy Hollow Trail: MODERATE	multi-use	0.4 Miles
Vista Lookout Road: MODERATE	multi-use	0.3 Miles
Vulture View Road: EASY	multi-use	0.5 Miles
Water Tank Road: EASY	multi-use	0.8 Miles
Whiting Road: MODERATE	multi-use	0.8 Miles
Whiting Spur Road: MODERATE	multi-use	0.3 Miles

APPENDIX C

EXISTING TRAFFIC COUNT DATA

APPENDIX C-I

INTERSECTION COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Thu, Oct 18, 18	LOCATION:	El Toro	PROJECT #:	SC1694
	NORTH & SOUTH:	Glenn Ranch	LOCATION #:	19
	EAST & WEST:	El Toro	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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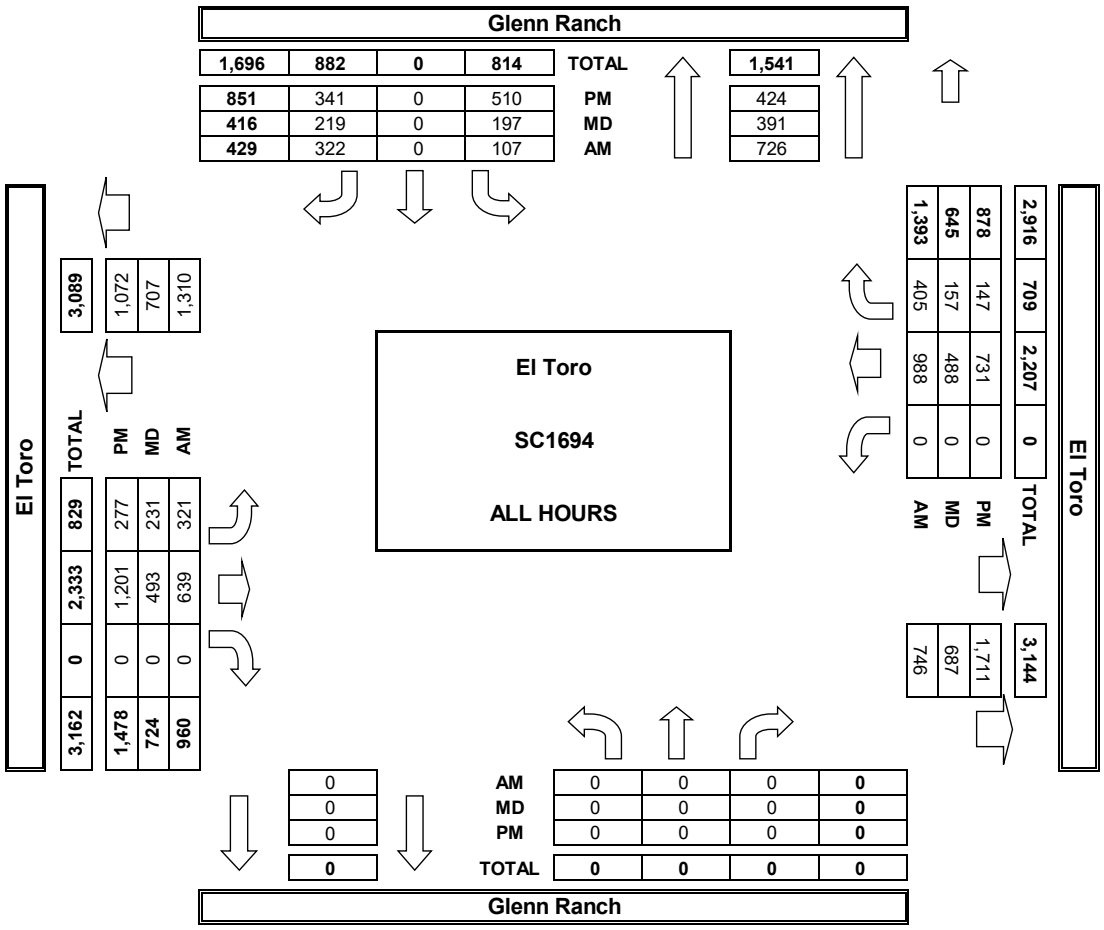
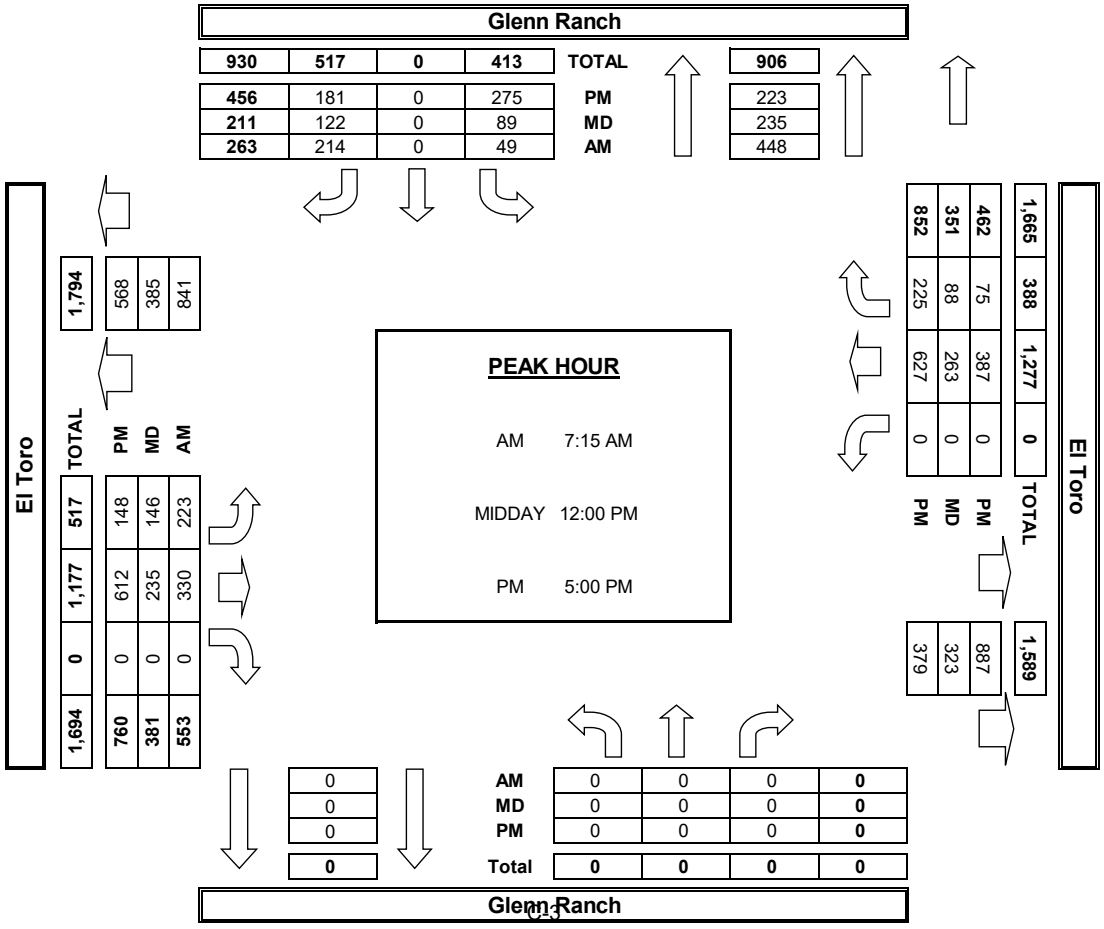
		NORTHBOUND Glenn Ranch			SOUTHBOUND Glenn Ranch			EASTBOUND El Toro			WESTBOUND El Toro			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	X	X	X	1	X	1	1	1	X	X	2	0	
AM	7:00 AM	0	0	0	12	0	29	25	82	0	0	83	41	272
	7:15 AM	0	0	0	7	0	34	36	69	0	0	127	64	337
	7:30 AM	0	0	0	14	0	63	59	72	0	0	173	39	420
	7:45 AM	0	0	0	10	0	57	88	98	0	0	199	74	526
	8:00 AM	0	0	0	18	0	60	40	91	0	0	128	48	385
	8:15 AM	0	0	0	12	0	20	33	88	0	0	108	44	305
	8:30 AM	0	0	0	18	0	25	22	80	0	0	68	44	257
	8:45 AM	0	0	0	16	0	34	18	59	0	0	102	51	280
	VOLUMES	0	0	0	107	0	322	321	639	0	0	988	405	2,782
	APPROACH %	0%	0%	0%	25%	0%	75%	33%	67%	0%	0%	71%	29%	
	APP/DEPART	0	/	726	429	/	0	960	/	746	1,393	/	1,310	0
	BEGIN PEAK HR		7:15 AM											
	VOLUMES	0	0	0	49	0	214	223	330	0	0	627	225	1,668
	APPROACH %	0%	0%	0%	19%	0%	81%	40%	60%	0%	0%	74%	26%	
	PEAK HR FACTOR		0.000			0.843			0.743			0.780		0.793
	APP/DEPART	0	/	448	263	/	0	553	/	379	852	/	841	0
MIDDAY	12:00 PM	0	0	0	26	0	22	39	70	0	0	66	21	244
	12:15 PM	0	0	0	14	0	19	48	42	0	0	67	22	212
	12:30 PM	0	0	0	24	0	42	26	51	0	0	68	20	231
	12:45 PM	0	0	0	25	0	39	33	72	0	0	62	25	256
	1:00 PM	0	0	0	27	0	27	23	54	0	0	46	20	197
	1:15 PM	0	0	0	21	0	20	27	76	0	0	53	17	214
	1:30 PM	0	0	0	34	0	26	23	72	0	0	69	21	245
	1:45 PM	0	0	0	26	0	24	12	56	0	0	57	11	186
	VOLUMES	0	0	0	197	0	219	231	493	0	0	488	157	1,785
	APPROACH %	0%	0%	0%	47%	0%	53%	32%	68%	0%	0%	76%	24%	
	APP/DEPART	0	/	391	416	/	0	724	/	687	645	/	707	0
	BEGIN PEAK HR		12:00 PM											
	VOLUMES	0	0	0	89	0	122	146	235	0	0	263	88	943
	APPROACH %	0%	0%	0%	42%	0%	58%	38%	62%	0%	0%	75%	25%	
	PEAK HR FACTOR		0.000			0.799			0.874			0.986		0.921
	APP/DEPART	0	/	235	211	/	0	381	/	323	351	/	385	0
PM	4:00 PM	0	0	0	57	0	39	39	163	0	0	73	17	388
	4:15 PM	0	0	0	57	0	39	23	145	0	0	78	22	364
	4:30 PM	0	0	0	63	0	35	39	134	0	0	94	20	385
	4:45 PM	0	0	0	58	0	47	28	147	0	0	99	13	392
	5:00 PM	0	0	0	92	0	46	32	164	0	0	83	17	434
	5:15 PM	0	0	0	64	0	51	40	158	0	0	109	24	446
	5:30 PM	0	0	0	62	0	37	37	142	0	0	104	18	400
	5:45 PM	0	0	0	57	0	47	39	148	0	0	91	16	398
	VOLUMES	0	0	0	510	0	341	277	1,201	0	0	731	147	3,207
	APPROACH %	0%	0%	0%	60%	0%	40%	19%	81%	0%	0%	83%	17%	
	APP/DEPART	0	/	424	851	/	0	1,478	/	1,711	878	/	1,072	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	0	0	0	275	0	181	148	612	0	0	387	75	1,678
	APPROACH %	0%	0%	0%	60%	0%	40%	19%	81%	0%	0%	84%	16%	
	PEAK HR FACTOR		0.000			0.826			0.960			0.868		0.941
	APP/DEPART	0	/	223	456	/	0	760	/	887	462	/	568	0

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	El Toro	PROJECT #:	SC1694
Thu, Oct 18, 18	NORTH & SOUTH:	Marguerite	LOCATION #:	16
	EAST & WEST:	El Toro	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER

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		NORTHBOUND Marguerite			SOUTHBOUND Marguerite			EASTBOUND El Toro			WESTBOUND El Toro			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1.5	1.5	1	1.5	1	1.5	2	2	1	2	2	0	
AM	7:00 AM	73	3	56	0	1	0	0	48	28	94	56	1	360
	7:15 AM	86	2	63	0	0	0	0	29	21	132	61	0	394
	7:30 AM	98	1	74	0	0	0	0	41	46	150	140	0	550
	7:45 AM	93	9	93	2	0	1	1	42	41	172	123	4	581
	8:00 AM	131	7	92	2	1	1	1	44	38	117	83	0	517
	8:15 AM	98	6	80	0	1	0	0	40	33	114	45	1	418
	8:30 AM	85	12	56	2	3	1	6	46	27	80	37	1	356
	8:45 AM	49	10	54	0	2	2	7	32	25	98	58	1	338
	VOLUMES	713	50	568	6	8	5	15	322	259	957	603	8	3,514
	APPROACH %	54%	4%	43%	32%	42%	26%	3%	54%	43%	61%	38%	1%	
	APP/DEPART	1,331	/	73	19	/	1,224	596	/	896	1,568	/	1,321	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	420	23	339	4	2	2	2	167	158	553	391	5	2,066
	APPROACH %	54%	3%	43%	50%	25%	25%	1%	51%	48%	58%	41%	1%	
	PEAK HR FACTOR		0.850			0.500			0.940			0.793		0.889
	APP/DEPART	782	/	30	8	/	713	327	/	510	949	/	813	0
MIDDAY	12:00 PM	33	1	67	3	17	9	1	49	13	62	48	0	303
	12:15 PM	38	3	50	1	4	1	1	49	36	50	55	0	288
	12:30 PM	33	3	57	1	2	3	0	42	32	46	58	0	277
	12:45 PM	40	7	72	2	1	1	1	59	42	73	42	1	341
	1:00 PM	42	8	55	0	3	1	0	36	40	42	39	1	267
	1:15 PM	44	2	55	4	4	0	2	54	31	41	45	0	282
	1:30 PM	35	5	80	2	3	0	1	33	34	55	48	0	296
	1:45 PM	24	2	54	2	2	1	2	28	37	53	38	1	244
	VOLUMES	289	31	490	15	36	16	8	350	265	422	373	3	2,298
	APPROACH %	36%	4%	60%	22%	54%	24%	1%	56%	43%	53%	47%	0%	
	APP/DEPART	810	/	41	67	/	723	623	/	855	798	/	679	0
	BEGIN PEAK HR		12:00 PM											
	VOLUMES	144	14	246	7	24	14	3	199	123	231	203	1	1,209
	APPROACH %	36%	3%	61%	16%	53%	31%	1%	61%	38%	53%	47%	0%	
	PEAK HR FACTOR		0.849			0.388			0.797			0.938		0.886
	APP/DEPART	404	/	18	45	/	378	325	/	452	435	/	361	0
PM	4:00 PM	42	7	129	1	5	0	1	88	73	68	37	0	451
	4:15 PM	27	2	118	4	11	2	2	62	64	80	45	1	418
	4:30 PM	35	4	119	1	10	0	0	87	62	93	46	1	458
	4:45 PM	28	5	120	1	8	0	1	77	65	94	51	0	450
	5:00 PM	35	6	148	1	13	1	3	88	88	86	59	0	528
	5:15 PM	34	6	151	0	15	5	7	77	101	110	59	7	572
	5:30 PM	39	18	137	8	8	1	1	76	89	95	54	1	527
	5:45 PM	51	8	138	2	11	2	5	80	91	97	45	0	530
	VOLUMES	291	56	1,060	18	81	11	20	635	633	723	396	10	3,934
	APPROACH %	21%	4%	75%	16%	74%	10%	2%	49%	49%	64%	35%	1%	
	APP/DEPART	1,407	/	86	110	/	1,437	1,288	/	1,713	1,129	/	698	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	159	38	574	11	47	9	16	321	369	388	217	8	2,157
	APPROACH %	21%	5%	74%	16%	70%	13%	2%	45%	52%	63%	35%	1%	
	PEAK HR FACTOR		0.978			0.838			0.954			0.871		0.943
	APP/DEPART	771	/	62	67	/	804	706	/	906	613	/	385	0

AimTD LLC

TURNING MOVEMENT COUNTS

El Toro

SC1694

ALL HOURS

Marguerite

196	**32**	**125**	**39**	**TOTAL**
110	11	81	18	**PM**
67	16	36	15	**MD**
19	5	8	6	**AM**

200

86	**PM**
41	**MD**
73	**AM**

El Toro

3,495	**1,129**	**798**	**1,568**
21	10	3	8
1,372	396	373	603
2,102	723	422	957
TOTAL	**PM**	**MD**	**AM**

3,464	1,713	855	896

Marguerite

713	50	568	**1,331**	**AM**
289	31	490	**810**	**MD**
291	56	1,060	**1,407**	**PM**
1,293	**137**	**2,118**	**3,548**	**TOTAL**

1,224	**AM**
723	**MD**
1,437	**PM**
3,384	**TOTAL**

El Toro

2,698	698	679	1,321
TOTAL	**PM**	**MD**	**AM**

43	20	8	15
1,307	635	350	322
1,157	633	265	259
2,507	**1,288**	**623**	**596**

El Toro

PEAK HOUR

AM 7:30 AM

MIDDAY 12:00 PM

PM 5:00 PM

Marguerite

120	**25**	**73**	**22**	**TOTAL**
67	9	47	11	**PM**
45	14	24	7	**MD**
8	2	2	4	**AM**

110

62	**PM**
18	**MD**
30	**AM**

El Toro

1,997	**613**	**435**	**949**
14	8	1	5
811	217	203	391
1,172	388	231	553
TOTAL	**PM**	**MD**	**PM**

1,868	906	452	510

Marguerite

420	23	339	**782**	**AM**
144	14	246	**404**	**MD**
159	38	574	**771**	**PM**
723	**75**	**1,159**	**1,957**	**Total**

713	**AM**
378	**MD**
804	**PM**
1,895	**Total**

El Toro

1,559	385	361	813
TOTAL	**PM**	**MD**	**AM**

21	16	3	2
687	321	199	167
650	369	123	158
1,358	**706**	**325**	**327**

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Thu, Oct 24, 19	LOCATION:	Mission Viejo	PROJECT #:	SC2085
	NORTH & SOUTH:	Marguerite	LOCATION #:	30
	EAST & WEST:	Los Alisos	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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		NORTHBOUND Marguerite			SOUTHBOUND Marguerite			EASTBOUND Los Alisos			WESTBOUND Los Alisos			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	1	2	0	1	2	0	
AM	7:00 AM	2	32	19	11	63	13	9	15	2	24	40	56	286
	7:15 AM	3	56	33	13	80	27	9	20	4	44	68	69	426
	7:30 AM	6	83	31	28	106	43	20	24	8	58	110	89	606
	7:45 AM	18	95	40	22	106	42	24	62	11	60	155	80	715
	8:00 AM	5	83	28	29	75	35	24	44	8	47	56	71	505
	8:15 AM	3	75	46	22	73	15	17	36	7	51	68	91	504
	8:30 AM	3	68	25	17	49	19	16	21	8	57	55	77	415
	8:45 AM	4	67	22	15	66	20	12	12	6	30	35	62	351
	VOLUMES	44	559	244	157	618	214	131	234	54	371	587	595	3,808
	APPROACH %	5%	66%	29%	16%	62%	22%	31%	56%	13%	24%	38%	38%	
	APP/DEPART	847	/	1,286	989	/	1,042	419	/	635	1,553	/	845	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	32	336	145	101	360	135	85	166	34	216	389	331	2,330
	APPROACH %	6%	65%	28%	17%	60%	23%	30%	58%	12%	23%	42%	35%	
	PEAK HR FACTOR		0.838			0.842			0.735			0.793		0.815
	APP/DEPART	513	/	753	596	/	609	285	/	412	936	/	556	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:				
Thu, Oct 24, 19	LOCATION:	Mission Viejo	PROJECT #:	SC2085
	NORTH & SOUTH:	Marguerite	LOCATION #:	30
	EAST & WEST:	Los Alisos	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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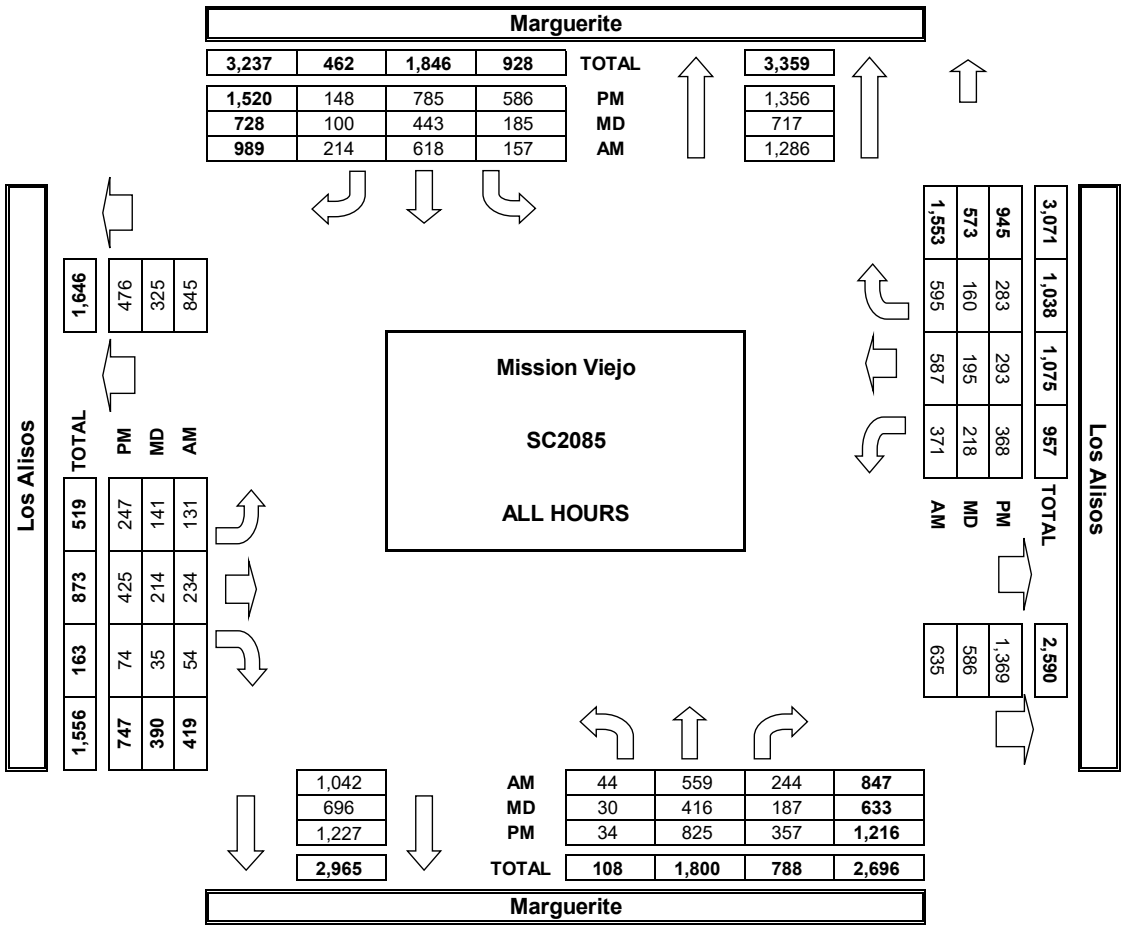
		NORTHBOUND Marguerite			SOUTHBOUND Marguerite			EASTBOUND Los Alisos			WESTBOUND Los Alisos			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	1	2	0	1	2	0	1	2	0	1	2	0	
PM	4:30 PM	1	87	44	71	86	18	22	51	2	54	36	35	507
	4:45 PM	4	95	46	73	97	18	19	46	7	44	41	32	522
	5:00 PM	3	97	38	66	115	16	39	58	9	43	42	31	557
	5:15 PM	5	137	38	59	100	19	40	65	11	43	35	33	585
	5:30 PM	5	116	45	96	115	22	52	52	12	53	34	32	634
	5:45 PM	6	100	42	81	99	18	31	49	17	42	35	35	555
	6:00 PM	4	99	64	69	94	15	17	50	4	45	34	40	535
	6:15 PM	6	94	40	71	79	22	27	54	12	44	36	45	530
	VOLUMES	34	825	357	586	785	148	247	425	74	368	293	283	4,428
	APPROACH %	3%	68%	29%	39%	52%	10%	33%	57%	10%	39%	31%	30%	
	APP/DEPART	1,216	/	1,356	1,520	/	1,227	747	/	1,369	945	/	476	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	19	450	163	302	429	75	162	224	49	181	146	131	2,334
	APPROACH %	3%	71%	26%	37%	53%	9%	37%	51%	11%	39%	32%	29%	
	PEAK HR FACTOR		0.878			0.866			0.940			0.964		0.920
	APP/DEPART	632	/	744	807	/	659	436	/	690	459	/	241	0

AimTD LLC

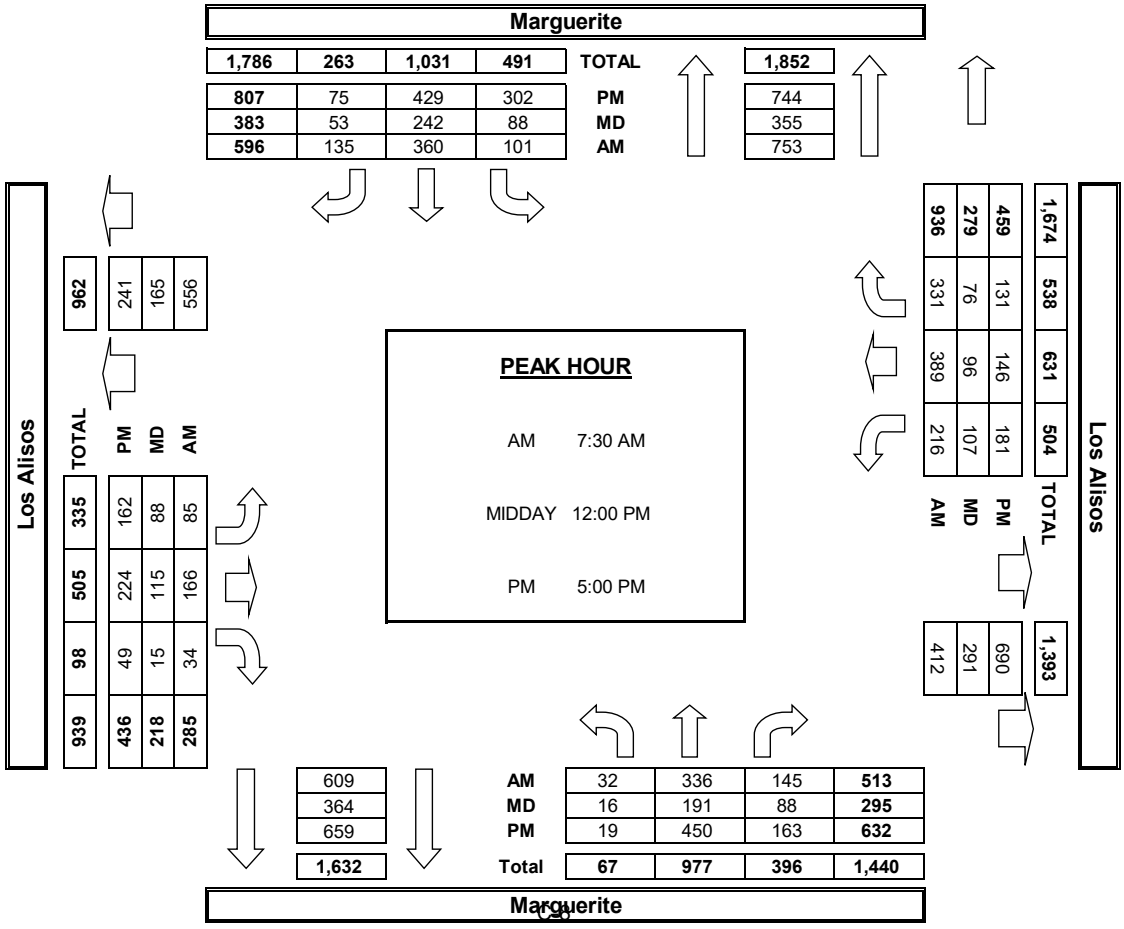
TURNING MOVEMENT COUNTS



	Marguerite				Los Alisos			
TOTAL	3,237	462	1,846	928	3,359	3,071	1,038	1,075	957
PM	1,520	148	785	586	1,356	1,553	595	587	371
MD	728	100	443	185	717	573	160	195	218
AM	989	214	618	157	1,286	945	283	293	368

	Los Alisos				Marguerite			
TOTAL	1,646	519	873	163	1,556	2,590	1,042	2,965
PM	476	247	425	74	747	1,369	244	1,216
MD	325	141	214	35	390	586	187	633
AM	845	131	234	54	419	635	357	847

AM	44	559	244	847
MD	30	416	187	633
PM	34	825	357	1,216
TOTAL	108	1,800	788	2,696



	Marguerite				Los Alisos			
TOTAL	1,786	263	1,031	491	1,852	1,674	538	631	504
PM	807	75	429	302	744	936	331	389	216
MD	383	53	242	88	355	279	76	96	107
AM	596	135	360	101	753	459	131	146	181

	Los Alisos				Marguerite			
TOTAL	962	335	505	98	939	1,393	609	1,632
PM	241	162	224	49	436	690	336	977
MD	165	88	115	15	218	291	191	450
AM	556	85	166	34	285	412	145	396

AM	32	336	145	513
MD	16	191	88	295
PM	19	450	163	632
Total	67	977	396	1,440

National Data & Surveying Services

Intersection Turning Movement Count

Location: El Toro Rd & Portola Pkwy/Santa Margarita Pky
City: Lake Forest
Control: Signalized

Project ID: Historical
Date: 4/17/2018

Total

NS/EW Streets:	El Toro Rd				El Toro Rd				Portola Pkwy/Santa Margarita Pky				Portola Pkwy/Santa Margarita Pky				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	2	3	1	0	2	4	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	45	44	60	0	2	124	67	0	14	77	36	0	73	308	5	2	857
7:15 AM	71	33	92	0	3	114	83	0	5	111	49	0	103	307	2	1	974
7:30 AM	65	24	110	0	4	183	88	0	12	167	64	1	111	343	6	0	1178
7:45 AM	107	55	147	0	17	175	105	0	16	212	55	2	79	374	15	3	1362
8:00 AM	77	38	104	0	4	127	87	0	19	132	52	1	142	453	7	1	1244
8:15 AM	72	63	89	0	5	111	95	0	21	98	49	1	104	381	7	0	1096
8:30 AM	64	39	81	0	2	92	63	0	15	130	44	0	129	341	1	0	1001
8:45 AM	61	41	86	0	3	74	75	0	21	118	53	2	58	278	3	0	873
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	562	337	769	0	40	1000	663	0	123	1045	402	7	799	2785	46	7	8585
APPROACH %'s :	33.69%	20.20%	46.10%	0.00%	2.35%	58.72%	38.93%	0.00%	7.80%	66.27%	25.49%	0.44%	21.97%	76.57%	1.26%	0.19%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	321	180	450	0	30	596	375	0	68	609	220	5	436	1551	35	4	4880
PEAK HR FACTOR :	0.750	0.714	0.765	0.000	0.441	0.814	0.893	0.000	0.810	0.718	0.859	0.625	0.768	0.856	0.583	0.333	0.896
	0.769				0.843				0.791				0.840				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	3	1	0	1	3	1	0	2	3	1	0	2	4	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	42	67	130	0	1	48	33	0	57	289	85	2	100	194	7	0	1055
4:15 PM	60	89	101	0	3	58	30	0	46	319	89	3	94	205	8	1	1106
4:30 PM	60	110	99	0	4	60	40	0	71	312	98	0	106	167	10	0	1137
4:45 PM	84	95	125	0	3	67	41	0	75	324	85	2	109	215	8	0	1233
5:00 PM	65	96	121	0	2	48	29	0	76	402	117	0	87	196	8	0	1247
5:15 PM	65	124	165	0	5	53	55	0	92	488	116	2	119	209	16	0	1509
5:30 PM	57	145	142	0	3	46	36	0	62	364	109	4	105	205	11	0	1289
5:45 PM	71	133	144	0	2	54	41	0	92	380	92	0	73	217	17	2	1318
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	504	859	1027	0	23	434	305	0	571	2878	791	13	793	1608	85	3	9894
APPROACH %'s :	21.09%	35.94%	42.97%	0.00%	3.02%	56.96%	40.03%	0.00%	13.43%	67.67%	18.60%	0.31%	31.86%	64.60%	3.42%	0.12%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	258	498	572	0	12	201	161	0	322	1634	434	6	384	827	52	2	5363
PEAK HR FACTOR :	0.908	0.859	0.867	0.000	0.600	0.931	0.732	0.000	0.875	0.837	0.927	0.375	0.807	0.953	0.765	0.250	0.889
	0.938				0.827				0.858				0.919				

Prepared by National Data & Surveying Services

El Toro Rd & Portola Pkwy/Santa Margarita Pky

Peak Hour Turning Movement Count

ID: Historical
City: Lake Forest

Day: Tuesday
Date: 04/17/2018

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

El Toro Rd — SOUTHBOUND

AM	375	596	30	0	283	AM
NOON	0	0	0	0	0	NOON
PM	161	201	12	0	872	PM
	1	3	1	0		

Portola Pkwy/Santa Margarita Pky — EASTBOUND

AM	NOON	PM		
2252	0	1252		
5	0	6	0	
68	0	322	2	
609	0	1634	3	
220	0	434	1	
AM	NOON	PM		

Portola Pkwy/Santa Margarita Pky — WESTBOUND

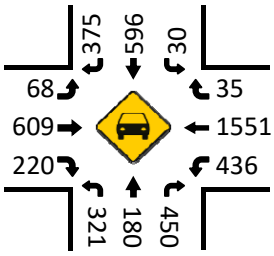
PM	NOON	AM		
52	0	35	0	
827	0	1551	4	
384	0	436	2	
2	0	4	0	
2220	0	1093		
PM	NOON	AM		

El Toro Rd — NORTHBOUND

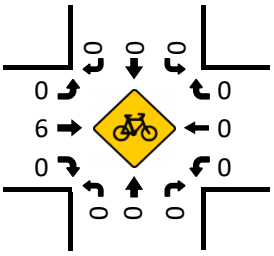
	0	1	3	1		
PM	1019	0	258	498	572	PM
NOON	0	0	0	0	0	NOON
AM	1252	0	321	180	450	AM

CONTROL			
Signalized			
TEV	4880	0	5363
	AM	NOON	PM
PHF	0.90		0.89

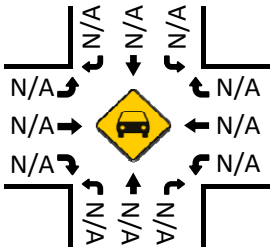
Total Vehicles (AM)



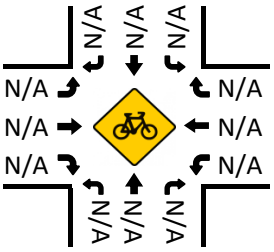
Bikes (AM)



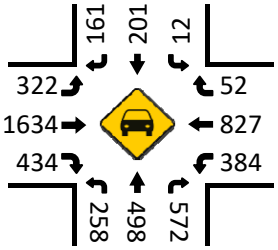
Total Vehicles (Noon)



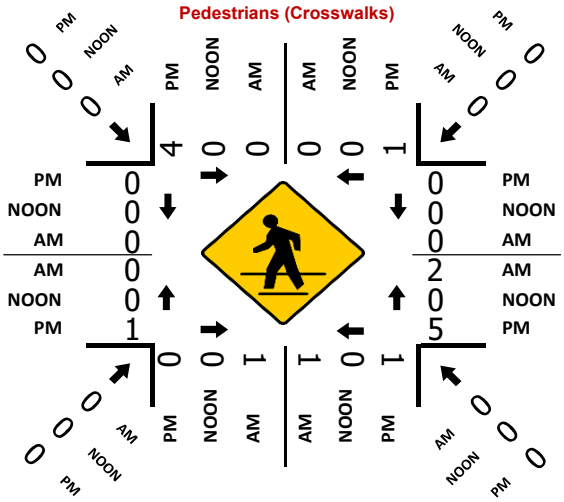
Bikes (NOON)



Total Vehicles (PM)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
4
0
0
0
0
1
0
PM
0
NOON
0
AM
0
AM
0
NOON
0
PM
1
0
0
1
1
0
1
1
0
0
0
0
0
0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Portola Pkwy & SR-241 Ramps
City: Lake Forest
Control: Signalized

Project ID: Historical
Date: 4/17/2018

Total

NS/EW Streets:	Portola Pkwy				Portola Pkwy				SR-241 Ramps				SR-241 Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	1	0	2	3	1	0	1	0	1	0	2	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	80	183	15	0	16	71	49	0	21	0	27	0	31	0	26	1	520
7:15 AM	115	177	14	0	16	81	64	0	23	0	42	0	22	0	55	0	609
7:30 AM	112	175	13	0	34	155	43	0	21	0	41	0	26	0	67	0	687
7:45 AM	92	277	20	0	33	185	49	0	29	0	46	0	55	0	82	1	869
8:00 AM	81	282	21	0	29	123	50	1	31	0	29	0	31	0	95	0	773
8:15 AM	87	227	12	0	25	101	55	1	21	0	34	0	38	0	75	0	676
8:30 AM	60	177	9	0	20	130	41	0	20	0	35	0	36	0	68	0	596
8:45 AM	82	162	9	1	25	86	28	2	23	0	46	2	43	0	54	0	563
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	709	1660	113	1	198	932	379	4	189	0	300	2	282	0	522	2	5293
APPROACH %'s :	28.55%	66.85%	4.55%	0.04%	13.09%	61.60%	25.05%	0.26%	38.49%	0.00%	61.10%	0.41%	34.99%	0.00%	64.76%	0.25%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	372	961	66	0	121	564	197	2	102	0	150	0	150	0	319	1	3005
PEAK HR FACTOR :	0.830	0.852	0.786	0.000	0.890	0.762	0.895	0.500	0.823	0.000	0.815	0.000	0.682	0.000	0.839	0.250	0.864
	0.899				0.828				0.840				0.851				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	2	3	1	0	2	3	1	0	1	0	1	0	2	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	41	145	28	0	55	198	29	0	20	0	57	0	22	0	35	0	630
4:15 PM	38	157	33	0	48	172	17	2	16	0	66	0	28	0	22	0	599
4:30 PM	38	171	20	0	59	256	25	1	24	0	69	0	17	0	34	0	714
4:45 PM	32	180	38	0	65	179	16	0	29	0	68	0	31	0	40	0	678
5:00 PM	41	170	52	0	78	285	34	0	25	0	83	0	22	0	34	0	824
5:15 PM	36	177	43	0	82	276	31	0	27	0	70	0	23	0	32	0	797
5:30 PM	28	181	49	1	72	249	24	1	33	0	76	0	22	0	34	0	770
5:45 PM	34	142	43	0	65	218	25	0	28	0	95	0	33	0	46	0	729
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	288	1323	306	1	524	1833	201	4	202	0	584	0	198	0	277	0	5741
APPROACH %'s :	15.02%	68.98%	15.95%	0.05%	20.45%	71.55%	7.85%	0.16%	25.70%	0.00%	74.30%	0.00%	41.68%	0.00%	58.32%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	139	670	187	1	297	1028	114	1	113	0	324	0	100	0	146	0	3120
PEAK HR FACTOR :	0.848	0.925	0.899	0.250	0.905	0.902	0.838	0.250	0.856	0.000	0.853	0.000	0.758	0.000	0.793	0.000	0.947
	0.948				0.907				0.888				0.778				

Prepared by National Data & Surveying Services

Portola Pkwy & SR-241 Ramps

Peak Hour Turning Movement Count

ID: Historical
City: Lake Forest

Day: Tuesday
Date: 04/17/2018

PEAK HOURS

07:30 AM - 08:30 AM
NONE
05:00 PM - 06:00 PM

COUNT PERIODS

07:00 AM - 09:00 AM
NONE
04:00 PM - 06:00 PM

Portola Pkwy — SOUTHBOUND

AM	197	564	121	2	1384	AM
NOON	0	0	0	0	0	NOON
PM	114	1028	297	1	930	PM
	1	3	2	0		

SR-241 Ramps — EASTBOUND

AM	NOON	PM	
569	0	253	
0	0	0	0
102	0	113	1
0	0	0	0
150	0	324	1
AM	NOON	PM	

SR-241 Ramps — WESTBOUND

	PM	NOON	AM
1	146	0	319
0	0	0	0
2	100	0	150
0	0	0	1
	484	0	188
	PM	NOON	AM

CONTROL

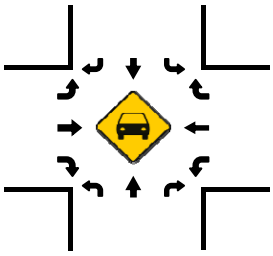
Signalized

TEV	3005 AM	0 NOON	3120 PM
PHF	0.86		0.95

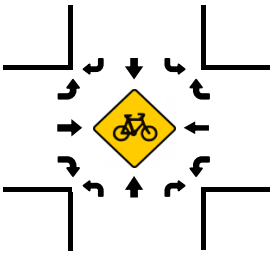
Portola Pkwy — NORTHBOUND

	0	2	3	1		
PM	1453	1	139	670	187	PM
NOON	0	0	0	0	0	NOON
AM	864	0	372	961	66	AM

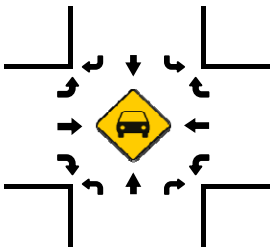
Total Vehicles (AM)



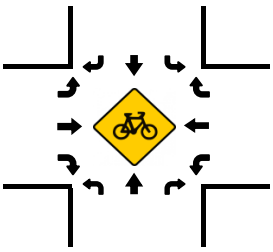
Bikes (AM)



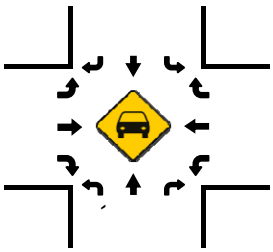
Total Vehicles (Noon)



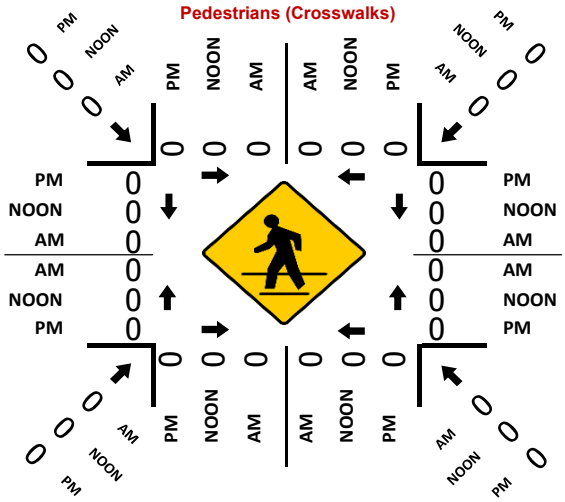
Bikes (NOON)



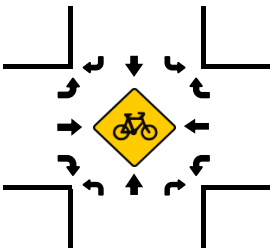
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



APPENDIX C-II

ROADWAY SEGMENT COUNTS

Wednesday, March 04, 2020 CITY: Mission Viejo PROJECT:

ADT18 El Toro Road from Cielo Entrada to Glenn Ranch Road.

Suhsduhg#e|#Dlp WG#DOF#Whd#:47#586#;;;

AM Period	NB		SB			PM Period	NB		SB		
0:00	7		4			12:00	72		90		
0:15	5		8			12:15	88		71		
0:30	7		8			12:30	91		68		
0:45	7	26	5	25	51	12:45	80	331	87	316	647
1:00	5		3			13:00	93		71		
1:15	2		8			13:15	98		82		
1:30	2		3			13:30	105		80		
1:45	2	11	1	15	26	13:45	114	410	79	312	722
2:00	2		2			14:00	97		102		
2:15	1		3			14:15	109		89		
2:30	3		1			14:30	114		97		
2:45	1	7	4	10	17	14:45	142	462	87	375	837
3:00	2		1			15:00	147		103		
3:15	0		2			15:15	152		108		
3:30	1		7			15:30	175		86		
3:45	1	4	9	19	23	15:45	179	653	91	388	1041
4:00	3		12			16:00	176		96		
4:15	3		9			16:15	197		99		
4:30	5		24			16:30	204		103		
4:45	2	13	25	70	83	16:45	187	764	94	392	1156
5:00	3		30			17:00	216		125		
5:15	9		36			17:15	224		120		
5:30	12		45			17:30	207		124		
5:45	10	34	47	158	192	17:45	197	844	130	499	1343
6:00	21		62			18:00	171		112		
6:15	31		75			18:15	136		98		
6:30	36		141			18:30	145		87		
6:45	54	142	124	402	544	18:45	125	577	81	378	955
7:00	56		152			19:00	109		61		
7:15	64		176			19:15	98		57		
7:30	75		246			19:30	100		61		
7:45	97	292	234	808	1100	19:45	87	394	52	231	625
8:00	86		214			20:00	68		34		
8:15	87		176			20:15	64		41		
8:30	75		156			20:30	61		32		
8:45	81	329	147	693	1022	20:45	54	247	28	135	382
9:00	76		146			21:00	46		34		
9:15	73		124			21:15	41		31		
9:30	68		108			21:30	51		28		
9:45	70	287	94	472	759	21:45	46	184	19	112	296
10:00	56		87			22:00	30		23		
10:15	51		75			22:15	21		16		
10:30	60		96			22:30	26		14		
10:45	49	216	73	331	547	22:45	20	97	13	66	163
11:00	56		70			23:00	12		19		
11:15	61		68			23:15	16		14		
11:30	76		93			23:30	10		8		
11:45	68	261	84	315	576	23:45	8	46	3	44	90
Total Vol.		1622		3318	**4940**			5009		3248	**8257**

Daily Totals

NB	SB	Combined
6631	6566	**13197**

	AM			PM		
Split %	32.8%	67.2%	**37.4%**	60.7%	39.3%	**62.6%**
Peak Hour	7:30	7:15	**7:30**	17:00	17:00	**17:00**
Volume	345	870	**1215**	844	499	**1343**
P.H.F.	0.89	0.88	**0.92**	0.95	0.96	**0.98**

cs@aimtd.com Tell. 714 253 7888

Wednesday, March 04, 2020 CITY: Mission Viejo PROJECT:

ADT19 El Toro Road from Glenn Ranch Road to Marguerite Parkway. Suhsduhg#e|#D1p WG#DOF#Whd#:47#586#;;;

AM Period	NB		SB			PM Period	NB		SB		
0:00	9		8			12:00	97		87		
0:15	11		9			12:15	110		113		
0:30	8		4			12:30	93		122		
0:45	5	33	5	26	59	12:45	116	416	132	454	870
1:00	3		10			13:00	122		104		
1:15	5		4			13:15	107		87		
1:30	3		3			13:30	114		96		
1:45	1	12	2	19	31	13:45	98	441	97	384	825
2:00	2		3			14:00	111		128		
2:15	2		2			14:15	134		123		
2:30	4		1			14:30	133		113		
2:45	1	9	1	7	16	14:45	163	541	139	503	1044
3:00	1		2			15:00	170		123		
3:15	2		3			15:15	217		107		
3:30	1		4			15:30	195		134		
3:45	1	5	7	16	21	15:45	211	793	149	513	1306
4:00	2		11			16:00	207		124		
4:15	2		15			16:15	187		141		
4:30	6		14			16:30	192		145		
4:45	2	12	13	53	65	16:45	199	785	146	556	1341
5:00	7		19			17:00	197		160		
5:15	10		22			17:15	257		153		
5:30	21		34			17:30	224		165		
5:45	22	60	35	110	170	17:45	192	870	125	603	1473
6:00	25		43			18:00	182		138		
6:15	40		65			18:15	172		132		
6:30	54		119			18:30	156		107		
6:45	78	197	154	381	578	18:45	125	635	111	488	1123
7:00	96		169			19:00	115		100		
7:15	83		186			19:15	98		73		
7:30	87		287			19:30	87		75		
7:45	121	387	298	940	1327	19:45	97	397	81	329	726
8:00	136		219			20:00	89		51		
8:15	135		150			20:15	100		45		
8:30	114		145			20:30	75		43		
8:45	88	473	162	676	1149	20:45	78	342	31	170	512
9:00	56		152			21:00	83		24		
9:15	59		118			21:15	65		22		
9:30	74		122			21:30	56		16		
9:45	57	246	115	507	753	21:45	51	255	21	83	338
10:00	81		90			22:00	50		31		
10:15	67		83			22:15	42		25		
10:30	56		112			22:30	29		27		
10:45	71	275	109	394	669	22:45	32	153	20	103	256
11:00	97		89			23:00	20		13		
11:15	89		92			23:15	16		10		
11:30	93		111			23:30	14		8		
11:45	100	379	98	390	769	23:45	8	58	7	38	96
Total Vol.		2088		3519	**5607**		5686		4224		**9910**

Daily Totals	NB	SB	Combined
	7774	7743	**15517**

	AM			PM		
Split %	37.2%	62.8%	**36.1%**	57.4%	42.6%	**63.9%**
Peak Hour	7:45	7:15	**7:30**	16:45	16:45	**16:45**
Volume	506	990	**1433**	877	624	**1501**
P.H.F.	0.93	0.83	**0.86**	0.89	0.95	**0.92**

cs@aimtd.com Tell. 714 253 7888

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

El Toro Rd W/O Marguerite Pkwy

Day: Monday
Date: 9/24/2018

City: Lake Forest
Project #: CA18_1189_007

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,913	6,114	12,027

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	11		4		15		12:00	0	0	74		83		157	
00:15	0	0	14		4		18		12:15	0	0	68		76		144	
00:30	0	0	7		3		10		12:30	0	0	77		91		168	
00:45	0	0	13	45	4	15	17	60	12:45	0	0	90	309	81	331	171	640
01:00	0	0	7		5		12		13:00	0	0	78		86		164	
01:15	0	0	6		4		10		13:15	0	0	65		118		183	
01:30	0	0	4		4		8		13:30	0	0	70		92		162	
01:45	0	0	3	20	4	17	7	37	13:45	0	0	89	302	87	383	176	685
02:00	0	0	3		3		6		14:00	0	0	70		89		159	
02:15	0	0	2		1		3		14:15	0	0	75		88		163	
02:30	0	0	7		6		13		14:30	0	0	99		125		224	
02:45	0	0	8	20	1	11	9	31	14:45	0	0	95	339	123	425	218	764
03:00	0	0	1		1		2		15:00	0	0	112		93		205	
03:15	0	0	3		6		9		15:15	0	0	150		93		243	
03:30	0	0	2		3		5		15:30	0	0	112		100		212	
03:45	0	0	6	12	9	19	15	31	15:45	0	0	135	509	77	363	212	872
04:00	0	0	2		10		12		16:00	0	0	119		93		212	
04:15	0	0	2		16		18		16:15	0	0	136		79		215	
04:30	0	0	2		10		12		16:30	0	0	156		64		220	
04:45	0	0	5	11	28	64	33	75	16:45	0	0	156	567	90	326	246	893
05:00	0	0	3		24		27		17:00	0	0	153		91		244	
05:15	0	0	9		30		39		17:15	0	0	183		85		268	
05:30	0	0	17		46		63		17:30	0	0	198		92		290	
05:45	0	0	20	49	50	150	70	199	17:45	0	0	161	695	82	350	243	1045
06:00	0	0	24		71		95		18:00	0	0	173		88		261	
06:15	0	0	38		76		114		18:15	0	0	187		74		261	
06:30	0	0	37		97		134		18:30	0	0	132		66		198	
06:45	0	0	56	155	143	387	199	542	18:45	0	0	116	608	76	304	192	912
07:00	0	0	64		133		197		19:00	0	0	130		58		188	
07:15	0	0	42		143		185		19:15	0	0	105		59		164	
07:30	0	0	67		215		282		19:30	0	0	88		42		130	
07:45	0	0	71	244	236	727	307	971	19:45	0	0	80	403	62	221	142	624
08:00	0	0	72		221		293		20:00	0	0	70		42		112	
08:15	0	0	91		161		252		20:15	0	0	64		32		96	
08:30	0	0	51		139		190		20:30	0	0	61		84		145	
08:45	0	0	84	298	151	672	235	970	20:45	0	0	51	246	52	210	103	456
09:00	0	0	61		121		182		21:00	0	0	51		44		95	
09:15	0	0	53		84		137		21:15	0	0	50		48		98	
09:30	0	0	45		102		147		21:30	0	0	51		21		72	
09:45	0	0	57	216	69	376	126	592	21:45	0	0	40	192	21	134	61	326
10:00	0	0	30		64		94		22:00	0	0	34		15		49	
10:15	0	0	48		62		110		22:15	0	0	41		19		60	
10:30	0	0	60		72		132		22:30	0	0	31		13		44	
10:45	0	0	64	202	71	269	135	471	22:45	0	0	27	133	6	53	33	186
11:00	0	0	61		56		117		23:00	0	0	29		10		39	
11:15	0	0	72		71		143		23:15	0	0	14		8		22	
11:30	0	0	63		69		132		23:30	0	0	10		9		19	
11:45	0	0	75	271	79	275	154	546	23:45	0	0	14	67	5	32	19	99
TOTALS				1543		2982		**4525**	**TOTALS**				4370		3132		**7502**
SPLIT %				34.1%		65.9%		**37.6%**	**SPLIT %**				58.3%		41.7%		**62.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,913	6,114	12,027

AM Peak Hour			07:30	07:30	**07:30**	**PM Peak Hour**			17:30	14:30	**17:15**
AM Pk Volume			301	833	**1134**	**PM Pk Volume**			719	434	**1062**
Pk Hr Factor			0.827	0.882	**0.923**	**Pk Hr Factor**			0.908	0.868	**0.916**
7 - 9 Volume	0	0	542	1399	**1941**	**4 - 6 Volume**	0	0	1262	676	**1938**
7 - 9 Peak Hour			07:30	07:30	**07:30**	**4 - 6 Peak Hour**			17:00	16:45	**16:45**
7 - 9 Pk Volume	0	0	301	833	**1134**	**4 - 6 Pk Volume**	0	0	695	358	**1048**
Pk Hr Factor	0.000	0.000	0.827	0.882	**0.923**	**Pk Hr Factor**	0.000	0.000	0.878	0.973	**0.903**

Prepared by NDS/ATD

VOLUME

Portola Pkwy Bet. El Toro Rd & SR-241

Day: Tuesday
Date: 2/14/2017

City: Lake Forest
Project #: Historical

DAILY TOTALS	NB	SB	EB	WB	Total
	17,502	14,313	0	0	31,815

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	11		18						29		12:00	235		248						483	
00:15	26		25						51		12:15	253		227						480	
00:30	8		9						17		12:30	325		204						529	
00:45	5	50	6	58					11	108	12:45	270	1083	212	891					482	1974
01:00	8		8						16		13:00	277		208						485	
01:15	4		9						13		13:15	288		223						511	
01:30	6		14						20		13:30	252		260						512	
01:45	5	23	10	41					15	64	13:45	235	1052	239	930					474	1982
02:00	5		3						8		14:00	238		254						492	
02:15	11		3						14		14:15	271		253						524	
02:30	11		5						16		14:30	249		286						535	
02:45	13	40	3	14					16	54	14:45	244	1002	298	1091					542	2093
03:00	9		5						14		15:00	233		312						545	
03:15	8		5						13		15:15	308		248						556	
03:30	17		11						28		15:30	286		314						600	
03:45	19	53	12	33					31	86	15:45	255	1082	271	1145					526	2227
04:00	15		19						34		16:00	261		359						620	
04:15	37		10						47		16:15	286		298						584	
04:30	49		19						68		16:30	264		359						623	
04:45	85	186	18	66					103	252	16:45	326	1137	325	1341					651	2478
05:00	70		41						111		17:00	259		372						631	
05:15	94		40						134		17:15	290		358						648	
05:30	122		34						156		17:30	295		365						660	
05:45	182	468	40	155					222	623	17:45	310	1154	319	1414					629	2568
06:00	143		57						200		18:00	279		333						612	
06:15	191		74						265		18:15	272		362						634	
06:30	228		132						360		18:30	253		338						591	
06:45	399	961	189	452					588	1413	18:45	217	1021	285	1318					502	2339
07:00	387		138						525		19:00	232		229						461	
07:15	419		124						543		19:15	200		189						389	
07:30	410		196						606		19:30	149		227						376	
07:45	525	1741	236	694					761	2435	19:45	160	741	156	801					316	1542
08:00	499		151						650		20:00	116		212						328	
08:15	502		157						659		20:15	132		145						277	
08:30	395		152						547		20:30	125		127						252	
08:45	333	1729	174	634					507	2363	20:45	119	492	127	611					246	1103
09:00	300		129						429		21:00	91		125						216	
09:15	292		114						406		21:15	98		107						205	
09:30	244		139						383		21:30	74		74						148	
09:45	232	1068	136	518					368	1586	21:45	60	323	91	397					151	720
10:00	212		124						336		22:00	67		103						170	
10:15	219		140						359		22:15	52		58						110	
10:30	214		159						373		22:30	30		53						83	
10:45	224	869	145	568					369	1437	22:45	37	186	53	267					90	453
11:00	200		144						344		23:00	46		42						88	
11:15	213		166						379		23:15	29		36						65	
11:30	261		221						482		23:30	27		30						57	
11:45	238	912	223	754					461	1666	23:45	27	129	12	120					39	249
TOTALS		8100		3987						12087	TOTALS		9402		10326						19728
SPLIT %		67.0%		33.0%						38.0%	SPLIT %		47.7%		52.3%						62.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	17,502	14,313	0	0	31,815

AM Peak Hour	07:30	11:30			07:30	PM Peak Hour	17:15	16:45			16:45
AM Pk Volume	1936	919			2676	PM Pk Volume	1174	1420			2590
Pk Hr Factor	0.922	0.926			0.879	Pk Hr Factor	0.947	0.954			0.981
7 - 9 Volume	3470	1328	0	0	4798	4 - 6 Volume	2291	2755	0	0	5046
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:45	16:45			16:45
7 - 9 Pk Volume	1936	740	0	0	2676	4 - 6 Pk Volume	1170	1420	0	0	2590
Pk Hr Factor	0.922	0.784	0.000	0.000	0.879	Pk Hr Factor	0.897	0.954	0.000	0.000	0.981

Thursday, February 27, 2020 CITY: Mission Viejo PROJECT:

ADT44 Marguerite Parkway from El Toro Road to Los Alisos Boulevard.

AM Period	NB		SB			PM Period	NB		SB		
0:00	7		12			12:00	122		141		
0:15	3		12			12:15	164		111		
0:30	6		5			12:30	105		117		
0:45	3	19	7	36	55	12:45	95	486	110	479	965
1:00	3		2			13:00	124		93		
1:15	4		2			13:15	110		81		
1:30	2		6			13:30	96		106		
1:45	2	11	1	11	22	13:45	103	433	118	398	831
2:00	0		1			14:00	112		106		
2:15	3		2			14:15	108		117		
2:30	4		0			14:30	138		125		
2:45	1	8	3	6	14	14:45	163	521	125	473	994
3:00	3		2			15:00	157		115		
3:15	1		1			15:15	191		114		
3:30	3		4			15:30	171		150		
3:45	5	12	7	14	26	15:45	167	686	126	505	1191
4:00	8		10			16:00	170		127		
4:15	8		9			16:15	182		145		
4:30	20		24			16:30	159		158		
4:45	8	44	16	59	103	16:45	174	685	174	604	1289
5:00	23		10			17:00	158		199		
5:15	36		20			17:15	205		215		
5:30	39		32			17:30	208		244		
5:45	46	144	30	92	236	17:45	199	770	186	844	1614
6:00	73		45			18:00	167		170		
6:15	72		54			18:15	167		159		
6:30	87		101			18:30	138		132		
6:45	132	364	107	307	671	18:45	137	609	136	597	1206
7:00	150		123			19:00	108		107		
7:15	151		151			19:15	71		97		
7:30	184		212			19:30	80		94		
7:45	228	713	214	700	1413	19:45	64	323	71	369	692
8:00	199		203			20:00	63		107		
8:15	194		154			20:15	65		95		
8:30	163		115			20:30	64		62		
8:45	149	705	117	589	1294	20:45	62	254	54	318	572
9:00	160		120			21:00	60		51		
9:15	160		100			21:15	65		59		
9:30	135		95			21:30	42		49		
9:45	87	542	94	409	951	21:45	38	205	49	208	413
10:00	69		73			22:00	29		37		
10:15	70		75			22:15	34		35		
10:30	79		76			22:30	26		30		
10:45	71	289	93	317	606	22:45	17	106	34	136	242
11:00	66		85			23:00	13		12		
11:15	90		95			23:15	13		10		
11:30	101		113			23:30	14		12		
11:45	97	354	163	456	810	23:45	15	55	12	46	101
Total Vol.		3205		2996	**6201**			5133		4977	**10110**

Daily Totals

NB	SB	Combined
8338	7973	**16311**

	AM			PM		
Split %	51.7%	48.3%	**38.0%**	50.8%	49.2%	**62.0%**
Peak Hour	7:30	7:30	**7:30**	17:15	17:00	**17:00**
Volume	805	783	**1588**	779	844	**1614**
P.H.F.	0.88	0.91	**0.90**	0.97	0.86	**0.89**

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APPENDIX D

GENERAL PLAN BUILDOUT TRAFFIC VOLUMES (YEAR 2045)

APPENDIX D-I

INTERSECTION VOLUMES

1. Glenn Ranch Road at El Toro Road

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	227	NORTHBOUND	
BOUND	THRU	337	IN ...	768
	RIGHT	0	OUT ...	1308
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	640	IN ...	1494
	RIGHT	230	OUT ...	739
EAST	LEFT	50	EASTBOUND	
BOUND	THRU	0	IN ...	537
	RIGHT	218	OUT ...	752
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	227	274
BOUND	THRU	337	545
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	640	965
	RIGHT	230	526
EAST	LEFT	50	194
BOUND	THRU	0	0
	RIGHT	218	343
WEST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0

2. Marguerite Parkway/Saddleback Church at El Toro Road

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	428	NORTHBOUND	
BOUND	THRU	23	IN ...	1145
	RIGHT	346	OUT ...	1001
SOUTH	LEFT	4	SOUTHBOUND	
BOUND	THRU	2	IN ...	8
	RIGHT	2	OUT ...	30
EAST	LEFT	2	EASTBOUND	
BOUND	THRU	170	IN ...	380
	RIGHT	161	OUT ...	1189
WEST	LEFT	564	WESTBOUND	
BOUND	THRU	399	IN ...	1449
	RIGHT	5	OUT ...	761

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	428	577
BOUND	THRU	23	24
	RIGHT	346	545
SOUTH	LEFT	4	4
BOUND	THRU	2	2
	RIGHT	2	2
EAST	LEFT	2	2
BOUND	THRU	170	212
	RIGHT	161	194
WEST	LEFT	564	833
BOUND	THRU	399	610
	RIGHT	5	6

3. Marguerite Parkway at Los Alisos Boulevard

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	32	NORTHBOUND	
BOUND	THRU	339	IN ...	632
	RIGHT	146	OUT ...	740
SOUTH	LEFT	102	SOUTHBOUND	
BOUND	THRU	364	IN ...	859
	RIGHT	136	OUT ...	1,037
EAST	LEFT	86	EASTBOUND	
BOUND	THRU	168	IN ...	310
	RIGHT	34	OUT ...	618
WEST	LEFT	218	WESTBOUND	
BOUND	THRU	393	IN ...	1,098
	RIGHT	334	OUT ...	503

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	32	35
BOUND	THRU	339	444
	RIGHT	146	159
SOUTH	LEFT	102	171
BOUND	THRU	364	497
	RIGHT	136	191
EAST	LEFT	86	107
BOUND	THRU	168	188
	RIGHT	34	37
WEST	LEFT	218	250
BOUND	THRU	393	444
	RIGHT	334	485

4. Santa Margarita Parkway/Portola Parkway at El Toro Road

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	327	NORTHBOUND	
BOUND	THRU	184	IN ...	1,150
	RIGHT	459	OUT ...	1,504
SOUTH	LEFT	31	SOUTHBOUND	
BOUND	THRU	608	IN ...	1,303
	RIGHT	383	OUT ...	702
EAST	LEFT	74	EASTBOUND	
BOUND	THRU	621	IN ...	1,011
	RIGHT	224	OUT ...	2,550
WEST	LEFT	449	WESTBOUND	
BOUND	THRU	1582	IN ...	2,445
	RIGHT	36	OUT ...	1,153

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	327	357
BOUND	THRU	184	418
	RIGHT	459	497
SOUTH	LEFT	31	55
BOUND	THRU	608	779
	RIGHT	383	525
EAST	LEFT	74	173
BOUND	THRU	621	679
	RIGHT	224	244
WEST	LEFT	449	527
BOUND	THRU	1,582	1,802
	RIGHT	36	112

5. Portola Parkway at SR-241 Ramps

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	379	NORTHBOUND	
BOUND	THRU	980	IN ...	2,100
	RIGHT	67	OUT ...	1,475
SOUTH	LEFT	125	SOUTHBOUND	
BOUND	THRU	575	IN ...	1,137
	RIGHT	201	OUT ...	2,143
EAST	LEFT	104	EASTBOUND	
BOUND	THRU	0	IN ...	306
	RIGHT	153	OUT ...	554
WEST	LEFT	154	WESTBOUND	
BOUND	THRU	0	IN ...	931
	RIGHT	325	OUT ...	303

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	379	424
BOUND	THRU	980	1,528
	RIGHT	67	145
SOUTH	LEFT	125	158
BOUND	THRU	575	852
	RIGHT	201	222
EAST	LEFT	104	114
BOUND	THRU	0	0
	RIGHT	153	217
WEST	LEFT	154	407
BOUND	THRU	0	0
	RIGHT	325	525

1. Glenn Ranch Road at El Toro Road

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	151	NORTHBOUND	
	THRU	624	IN ...	1295
	RIGHT	0	OUT ...	703
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	395	IN ...	756
	RIGHT	77	OUT ...	1615
EAST BOUND	LEFT	281	EASTBOUND	
	THRU	0	IN ...	882
	RIGHT	185	OUT ...	615
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	151	342
	THRU	624	956
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	395	482
	RIGHT	77	273
EAST BOUND	LEFT	281	661
	THRU	0	0
	RIGHT	185	263
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

2. Marguerite Parkway/Saddleback Church at El Toro Road

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	162	NORTHBOUND	
BOUND	THRU	39	IN ...	1056
	RIGHT	585	OUT ...	742
SOUTH	LEFT	11	SOUTHBOUND	
BOUND	THRU	48	IN ...	68
	RIGHT	9	OUT ...	63
EAST	LEFT	16	EASTBOUND	
BOUND	THRU	327	IN ...	835
	RIGHT	376	OUT ...	460
WEST	LEFT	396	WESTBOUND	
BOUND	THRU	221	IN ...	772
	RIGHT	8	OUT ...	1465

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	162	200
BOUND	THRU	39	40
	RIGHT	585	890
SOUTH	LEFT	11	21
BOUND	THRU	48	49
	RIGHT	9	9
EAST	LEFT	16	16
BOUND	THRU	327	554
	RIGHT	376	431
WEST	LEFT	396	503
BOUND	THRU	221	318
	RIGHT	8	12

3. Marguerite Parkway at Los Alisos Boulevard

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	19	NORTHBOUND	
BOUND	THRU	455	IN ...	781
	RIGHT	165	OUT ...	601
SOUTH	LEFT	306	SOUTHBOUND	
BOUND	THRU	433	IN ...	838
	RIGHT	76	OUT ...	971
EAST	LEFT	165	EASTBOUND	
BOUND	THRU	226	IN ...	393
	RIGHT	49	OUT ...	281
WEST	LEFT	184	WESTBOUND	
BOUND	THRU	147	IN ...	572
	RIGHT	132	OUT ...	733

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	19	21
BOUND	THRU	455	588
	RIGHT	165	193
SOUTH	LEFT	306	366
BOUND	THRU	433	525
	RIGHT	76	84
EAST	LEFT	165	187
BOUND	THRU	226	263
	RIGHT	49	53
WEST	LEFT	184	209
BOUND	THRU	147	179
	RIGHT	132	212

4. Santa Margarita Parkway/Portola Parkway at El Toro Road

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	263	NORTHBOUND	
BOUND	THRU	508	IN ...	1,684
	RIGHT	583	OUT ...	1,030
SOUTH	LEFT	12	SOUTHBOUND	
BOUND	THRU	205	IN ...	585
	RIGHT	164	OUT ...	1,285
EAST	LEFT	335	EASTBOUND	
BOUND	THRU	1667	IN ...	2,589
	RIGHT	443	OUT ...	1,509
WEST	LEFT	394	WESTBOUND	
BOUND	THRU	844	IN ...	1,372
	RIGHT	53	OUT ...	2,406

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	263	295
BOUND	THRU	508	745
	RIGHT	583	645
SOUTH	LEFT	12	28
BOUND	THRU	205	286
	RIGHT	164	279
EAST	LEFT	335	491
BOUND	THRU	1,667	1,836
	RIGHT	443	482
WEST	LEFT	394	426
BOUND	THRU	844	935
	RIGHT	53	77

5. Portola Parkway at SR-241 Ramps

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	143	NORTHBOUND	
BOUND	THRU	683	IN ...	2,124
	RIGHT	191	OUT ...	2,593
SOUTH	LEFT	304	SOUTHBOUND	
BOUND	THRU	1049	IN ...	2,142
	RIGHT	116	OUT ...	1,323
EAST	LEFT	115	EASTBOUND	
BOUND	THRU	0	IN ...	725
	RIGHT	330	OUT ...	455
WEST	LEFT	102	WESTBOUND	
BOUND	THRU	0	IN ...	350
	RIGHT	149	OUT ...	970

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	143	355
BOUND	THRU	683	1,125
	RIGHT	191	625
SOUTH	LEFT	304	345
BOUND	THRU	1,049	1,710
	RIGHT	116	129
EAST	LEFT	115	137
BOUND	THRU	0	0
	RIGHT	330	651
WEST	LEFT	102	232
BOUND	THRU	0	0
	RIGHT	149	173

APPENDIX D-II

ROADWAY SEGMENT VOLUMES

A. El Toro Road, between Glenn Ranch Road and Cielo Entrada

DAILY HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	0	NORTHBOUND	
BOUND	THRU	13197	IN ...	16556
	RIGHT	0	OUT ...	0
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	16556
EAST	LEFT	0	EASTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	13,197	16,556
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0

B. El Toro Road, between Project Driveway and Glen Ranch Road

DAILY HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	0	NORTHBOUND	
BOUND	THRU	15517	IN ...	17479
	RIGHT	0	OUT ...	0
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	17479
EAST	LEFT	0	EASTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	15,517	18,457
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0

C. El Toro Road, between Marguerite Parkway/Saddleback Church and Project Driveway

DAILY HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	0	NORTHBOUND	
BOUND	THRU	15517	IN ...	17,479
	RIGHT	0	OUT ...	0
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	17,479
EAST	LEFT	0	EASTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	15,517	18,457
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0

D. El Toro Road, between Santa Margarita Parkway/Portola Parkway and Marguerite Parkway/Saddleback Church

DAILY HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	0	NORTHBOUND	
BOUND	THRU	12268	IN ...	13,117
	RIGHT	0	OUT ...	0
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	13,117
EAST	LEFT	0	EASTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	12,268	15,153
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0

E. Portola Parkway, between El Toro Road and SR-241 Ramps

DAILY HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	0	NORTHBOUND	
BOUND	THRU	32769	IN ...	34,797
	RIGHT	0	OUT ...	0
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	34,797
EAST	LEFT	0	EASTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	32,769	38,096
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0

F. Marguerite Parkway, between El Toro Road and Los Alisos Boulevard

DAILY HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	0	NORTHBOUND	
BOUND	THRU	16311	IN ...	17,558
	RIGHT	0	OUT ...	0
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	17,558
EAST	LEFT	0	EASTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	16,311	18,452
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0

APPENDIX E

EXISTING TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX E-I

EXISTING TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	227	337	640	230	50	218
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	227	337	640	230	50	218
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	84	160	58	13	55
Total Analysis Volume [veh/h]	227	337	640	230	50	218
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.20	0.26	0.26	0.03	0.00
Intersection LOS	A					
Intersection V/C	0.469					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.438

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	428	23	346	4	2	2	2	170	161	564	399	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	428	23	346	4	2	2	2	170	161	564	399	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	107	6	87	1	1	1	1	43	40	141	100	1
Total Analysis Volume [veh/h]	428	23	346	4	2	2	2	170	161	564	399	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.01	0.04	0.00	0.00	0.00	0.00	0.05	0.09	0.17	0.12	0.12
Intersection LOS	A											
Intersection V/C	0.438											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	32	339	146	102	364	136	86	168	34	218	393	334
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	339	146	102	364	136	86	168	34	218	393	334
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	85	37	26	91	34	22	42	9	55	98	84
Total Analysis Volume [veh/h]	32	339	146	102	364	136	86	168	34	218	393	334
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.14	0.14	0.06	0.15	0.15	0.05	0.06	0.06	0.13	0.21	0.21
Intersection LOS	A											
Intersection V/C	0.517											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.714

Intersection Setup

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	327	184	459	31	608	383	74	621	224	449	1582	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	327	184	459	31	608	383	74	621	224	449	1582	36
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	46	115	8	152	96	19	155	56	112	396	9
Total Analysis Volume [veh/h]	327	184	459	31	608	383	74	621	224	449	1582	36
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Overla	Protect	Permis	Unsign	Protect	Permis	Permis
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.09	0.09	0.01	0.12	0.18	0.04	0.12	0.00	0.26	0.31	0.02
Intersection LOS	C											
Intersection V/C	0.714											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.385

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	379	980	67	125	575	201	104	0	153	154	0	325
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	379	980	67	125	575	201	104	0	153	154	0	325
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	245	17	31	144	50	26	0	38	39	0	81
Total Analysis Volume [veh/h]	379	980	67	125	575	201	104	0	153	154	0	325
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.19	0.00	0.04	0.11	0.00	0.06	0.00	0.00	0.05	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.385											

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	151	624	395	77	281	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	624	395	77	281	185
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	156	99	19	70	46
Total Analysis Volume [veh/h]	151	624	395	77	281	185
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	162	39	585	11	48	9	16	327	376	396	221	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	39	585	11	48	9	16	327	376	396	221	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	10	146	3	12	2	4	82	94	99	55	2
Total Analysis Volume [veh/h]	162	39	585	11	48	9	16	327	376	396	221	8
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.23	0.01	0.01	0.01	0.00	0.10	0.22	0.12	0.07	0.07
Intersection LOS	B											
Intersection V/C	0.629											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	19	455	165	306	433	76	165	226	49	184	147	132
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	455	165	306	433	76	165	226	49	184	147	132
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	114	41	77	108	19	41	57	12	46	37	33
Total Analysis Volume [veh/h]	19	455	165	306	433	76	165	226	49	184	147	132
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.18	0.18	0.18	0.15	0.15	0.10	0.08	0.08	0.11	0.08	0.08
Intersection LOS	B											
Intersection V/C	0.601											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.773

Intersection Setup

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	263	508	583	12	205	164	335	1667	443	394	844	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	263	508	583	12	205	164	335	1667	443	394	844	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	127	146	3	51	41	84	417	111	99	211	13
Total Analysis Volume [veh/h]	263	508	583	12	205	164	335	1667	443	394	844	53
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Overla	Protect	Permis	Unsign	Protect	Permis	Permis
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.16	0.16	0.00	0.04	0.00	0.20	0.33	0.00	0.23	0.17	0.03
Intersection LOS	C											
Intersection V/C	0.773											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.395

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	143	683	191	304	1049	116	115	0	330	102	0	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	683	191	304	1049	116	115	0	330	102	0	149
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	171	48	76	262	29	29	0	83	26	0	37
Total Analysis Volume [veh/h]	143	683	191	304	1049	116	115	0	330	102	0	149
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.13	0.00	0.09	0.21	0.00	0.07	0.00	0.00	0.03	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.395											

APPENDIX E-II

EXISTING WITH PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	227	341	641	230	50	218
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	227	341	641	230	50	218
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	85	160	58	13	55
Total Analysis Volume [veh/h]	227	341	641	230	50	218
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.20	0.26	0.26	0.03	0.00
Intersection LOS	A					
Intersection V/C	0.469					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.439

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	428	23	348	4	2	2	2	177	161	570	421	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	428	23	348	4	2	2	2	177	161	570	421	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	107	6	87	1	1	1	1	44	40	143	105	1
Total Analysis Volume [veh/h]	428	23	348	4	2	2	2	177	161	570	421	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.01	0.04	0.00	0.00	0.00	0.00	0.05	0.09	0.17	0.13	0.13
Intersection LOS	A											
Intersection V/C	0.439											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	32	340	146	104	367	137	86	168	34	218	393	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	340	146	104	367	137	86	168	34	218	393	335
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	85	37	26	92	34	22	42	9	55	98	84
Total Analysis Volume [veh/h]	32	340	146	104	367	137	86	168	34	218	393	335
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.14	0.14	0.06	0.15	0.15	0.05	0.06	0.06	0.13	0.21	0.21
Intersection LOS	A											
Intersection V/C	0.519											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.714

Intersection Setup

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	327	184	459	36	608	383	74	624	224	449	1590	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	327	184	459	36	608	383	74	624	224	449	1590	50
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	46	115	9	152	96	19	156	56	112	398	13
Total Analysis Volume [veh/h]	327	184	459	36	608	383	74	624	224	449	1590	50
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Overla	Protect	Permis	Unsign	Protect	Permis	Permis
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.09	0.09	0.01	0.12	0.18	0.04	0.12	0.00	0.26	0.31	0.03
Intersection LOS	C											
Intersection V/C	0.714											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.386

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	390	983	67	125	576	201	104	0	157	154	0	325
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	390	983	67	125	576	201	104	0	157	154	0	325
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	98	246	17	31	144	50	26	0	39	39	0	81
Total Analysis Volume [veh/h]	390	983	67	125	576	201	104	0	157	154	0	325
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.19	0.00	0.04	0.11	0.00	0.06	0.00	0.00	0.05	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.386											

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	151	626	399	77	281	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	626	399	77	281	185
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	157	100	19	70	46
Total Analysis Volume [veh/h]	151	626	399	77	281	185
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.37	0.14	0.14	0.17	0.02
Intersection LOS	A					
Intersection V/C	0.584					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.633

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	162	39	591	11	48	9	16	349	376	399	234	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	39	591	11	48	9	16	349	376	399	234	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	10	148	3	12	2	4	87	94	100	59	2
Total Analysis Volume [veh/h]	162	39	591	11	48	9	16	349	376	399	234	8
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.23	0.01	0.01	0.01	0.00	0.10	0.22	0.12	0.07	0.07
Intersection LOS	B											
Intersection V/C	0.633											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	19	458	165	307	435	77	166	226	49	184	147	134
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	458	165	307	435	77	166	226	49	184	147	134
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	115	41	77	109	19	42	57	12	46	37	34
Total Analysis Volume [veh/h]	19	458	165	307	435	77	166	226	49	184	147	134
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.18	0.18	0.18	0.15	0.15	0.10	0.08	0.08	0.11	0.08	0.08
Intersection LOS	B											
Intersection V/C	0.603											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.778

Intersection Setup

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	263	508	583	26	205	164	335	1675	443	394	849	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	263	508	583	26	205	164	335	1675	443	394	849	62
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	127	146	7	51	41	84	419	111	99	212	16
Total Analysis Volume [veh/h]	263	508	583	26	205	164	335	1675	443	394	849	62
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Overla	Protect	Permis	Unsign	Protect	Permis	Permis
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.16	0.16	0.01	0.04	0.00	0.20	0.33	0.00	0.23	0.17	0.04
Intersection LOS	C											
Intersection V/C	0.778											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	150	685	191	304	1052	116	115	0	341	102	0	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	685	191	304	1052	116	115	0	341	102	0	149
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	171	48	76	263	29	29	0	85	26	0	37
Total Analysis Volume [veh/h]	150	685	191	304	1052	116	115	0	341	102	0	149
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.13	0.00	0.09	0.21	0.00	0.07	0.00	0.00	0.03	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.398											

APPENDIX F

YEAR 2023 TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX F-I

YEAR 2023 WITHOUT PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.523

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	261	362	682	260	72	299
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	261	362	682	260	72	299
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	91	171	65	18	75
Total Analysis Volume [veh/h]	261	362	682	260	72	299
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.21	0.28	0.28	0.04	0.02
Intersection LOS	A					
Intersection V/C	0.523					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	462	24	390	4	2	2	2	186	185	667	427	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	462	24	390	4	2	2	2	186	185	667	427	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	116	6	98	1	1	1	1	47	46	167	107	1
Total Analysis Volume [veh/h]	462	24	390	4	2	2	2	186	185	667	427	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.01	0.03	0.00	0.00	0.00	0.00	0.05	0.11	0.20	0.13	0.13
Intersection LOS	A											
Intersection V/C	0.492											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	33	377	154	137	444	144	91	179	35	238	423	372
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	377	154	137	444	144	91	179	35	238	423	372
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	94	39	34	111	36	23	45	9	60	106	93
Total Analysis Volume [veh/h]	33	377	154	137	444	144	91	179	35	238	423	372
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.16	0.16	0.08	0.17	0.17	0.05	0.06	0.06	0.14	0.23	0.23
Intersection LOS	A											
Intersection V/C	0.574											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.773

Intersection Setup

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	340	235	473	52	717	500	118	647	232	462	1650	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	340	235	473	52	717	500	118	647	232	462	1650	50
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	59	118	13	179	125	30	162	58	116	413	13
Total Analysis Volume [veh/h]	340	235	473	52	717	500	118	647	232	462	1650	50
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Overla	Protect	Permis	Unsign	Protect	Permis	Permis
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.10	0.10	0.02	0.14	0.22	0.07	0.13	0.00	0.27	0.32	0.03
Intersection LOS	C											
Intersection V/C	0.773											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.426

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	390	1074	90	133	744	211	109	0	158	174	0	337
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	390	1074	90	133	744	211	109	0	158	174	0	337
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	98	269	23	33	186	53	27	0	40	44	0	84
Total Analysis Volume [veh/h]	390	1074	90	133	744	211	109	0	158	174	0	337
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.21	0.00	0.04	0.15	0.00	0.06	0.00	0.00	0.05	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.426											

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.652

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	244	693	432	103	330	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	693	432	103	330	250
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	173	108	26	83	63
Total Analysis Volume [veh/h]	244	693	432	103	330	250
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

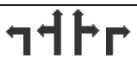
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.41	0.16	0.16	0.19	0.00
Intersection LOS	B					
Intersection V/C	0.652					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	190	40	715	11	49	9	16	363	410	479	242	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	40	715	11	49	9	16	363	410	479	242	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	10	179	3	12	2	4	91	103	120	61	2
Total Analysis Volume [veh/h]	190	40	715	11	49	9	16	363	410	479	242	8
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.01	0.28	0.01	0.01	0.01	0.00	0.11	0.24	0.14	0.07	0.07
Intersection LOS	C											
Intersection V/C	0.726											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.679

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	20	555	184	351	500	82	178	250	50	199	161	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	555	184	351	500	82	178	250	50	199	161	176
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	139	46	88	125	21	45	63	13	50	40	44
Total Analysis Volume [veh/h]	20	555	184	351	500	82	178	250	50	199	161	176
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.22	0.22	0.21	0.17	0.17	0.10	0.09	0.09	0.12	0.10	0.10
Intersection LOS	B											
Intersection V/C	0.679											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.819

Intersection Setup

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	273	620	600	27	277	251	468	1749	459	406	884	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	273	620	600	27	277	251	468	1749	459	406	884	76
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	155	150	7	69	63	117	437	115	102	221	19
Total Analysis Volume [veh/h]	273	620	600	27	277	251	468	1749	459	406	884	76
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Overla	Protect	Permis	Unsign	Protect	Permis	Permis
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.18	0.18	0.01	0.05	0.00	0.28	0.34	0.00	0.24	0.17	0.04
Intersection LOS	D											
Intersection V/C	0.819											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	147	879	208	317	1203	123	130	0	340	120	0	165
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	147	879	208	317	1203	123	130	0	340	120	0	165
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	220	52	79	301	31	33	0	85	30	0	41
Total Analysis Volume [veh/h]	147	879	208	317	1203	123	130	0	340	120	0	165
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.17	0.00	0.09	0.24	0.00	0.08	0.00	0.00	0.04	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.441											

APPENDIX F-II

YEAR 2023 WITH PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.523

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	261	366	683	260	72	299
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	261	366	683	260	72	299
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	92	171	65	18	75
Total Analysis Volume [veh/h]	261	366	683	260	72	299
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

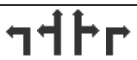
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.22	0.28	0.28	0.04	0.02
Intersection LOS	A					
Intersection V/C	0.523					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.494

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	462	24	392	4	2	2	2	193	185	673	449	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	462	24	392	4	2	2	2	193	185	673	449	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	116	6	98	1	1	1	1	48	46	168	112	1
Total Analysis Volume [veh/h]	462	24	392	4	2	2	2	193	185	673	449	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.01	0.03	0.00	0.00	0.00	0.00	0.06	0.11	0.20	0.13	0.13
Intersection LOS	A											
Intersection V/C	0.494											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	33	378	154	139	447	145	91	179	35	238	423	373
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	378	154	139	447	145	91	179	35	238	423	373
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	95	39	35	112	36	23	45	9	60	106	93
Total Analysis Volume [veh/h]	33	378	154	139	447	145	91	179	35	238	423	373
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.16	0.16	0.08	0.17	0.17	0.05	0.06	0.06	0.14	0.23	0.23
Intersection LOS	A											
Intersection V/C	0.576											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.774

Intersection Setup

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	340	235	473	57	717	500	118	650	232	462	1658	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	340	235	473	57	717	500	118	650	232	462	1658	64
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	59	118	14	179	125	30	163	58	116	415	16
Total Analysis Volume [veh/h]	340	235	473	57	717	500	118	650	232	462	1658	64
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Overla	Protect	Permis	Unsign	Protect	Permis	Permis
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.10	0.10	0.02	0.14	0.22	0.07	0.13	0.00	0.27	0.33	0.04
Intersection LOS	C											
Intersection V/C	0.774											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.429

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	401	1077	90	133	745	211	109	0	162	174	0	337
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	401	1077	90	133	745	211	109	0	162	174	0	337
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	100	269	23	33	186	53	27	0	41	44	0	84
Total Analysis Volume [veh/h]	401	1077	90	133	745	211	109	0	162	174	0	337
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.21	0.00	0.04	0.15	0.00	0.06	0.00	0.00	0.05	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.429											

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	244	695	436	103	330	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	695	436	103	330	250
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	174	109	26	83	63
Total Analysis Volume [veh/h]	244	695	436	103	330	250
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.41	0.16	0.16	0.19	0.00
Intersection LOS	B					
Intersection V/C	0.653					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.730

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	190	40	721	11	49	9	16	385	410	482	255	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	40	721	11	49	9	16	385	410	482	255	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	10	180	3	12	2	4	96	103	121	64	2
Total Analysis Volume [veh/h]	190	40	721	11	49	9	16	385	410	482	255	8
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.01	0.28	0.01	0.01	0.01	0.00	0.11	0.24	0.14	0.08	0.08
Intersection LOS	C											
Intersection V/C	0.730											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.681

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	20	558	184	352	502	83	179	250	50	199	161	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	558	184	352	502	83	179	250	50	199	161	178
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	140	46	88	126	21	45	63	13	50	40	45
Total Analysis Volume [veh/h]	20	558	184	352	502	83	179	250	50	199	161	178
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.22	0.22	0.21	0.17	0.17	0.11	0.09	0.09	0.12	0.10	0.10
Intersection LOS	B											
Intersection V/C	0.681											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.825

Intersection Setup

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	273	620	600	41	277	251	468	1757	459	406	889	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	273	620	600	41	277	251	468	1757	459	406	889	85
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	155	150	10	69	63	117	439	115	102	222	21
Total Analysis Volume [veh/h]	273	620	600	41	277	251	468	1757	459	406	889	85
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Overla	Protect	Permis	Unsign	Protect	Permis	Permis
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.18	0.18	0.01	0.05	0.00	0.28	0.34	0.00	0.24	0.17	0.05
Intersection LOS	D											
Intersection V/C	0.825											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	154	881	208	317	1206	123	130	0	351	120	0	165
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	154	881	208	317	1206	123	130	0	351	120	0	165
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	220	52	79	302	31	33	0	88	30	0	41
Total Analysis Volume [veh/h]	154	881	208	317	1206	123	130	0	351	120	0	165
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.17	0.00	0.09	0.24	0.00	0.08	0.00	0.00	0.04	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.444											

APPENDIX G

YEAR 2045 TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX G-I

YEAR 2045 WITHOUT PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.764

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	274	545	965	526	194	343
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	545	965	526	194	343
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	136	241	132	49	86
Total Analysis Volume [veh/h]	274	545	965	526	194	343
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.32	0.44	0.44	0.11	0.04
Intersection LOS	C					
Intersection V/C	0.764					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.580

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	577	24	545	4	2	2	2	212	194	833	610	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	577	24	545	4	2	2	2	212	194	833	610	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	6	136	1	1	1	1	53	49	208	153	2
Total Analysis Volume [veh/h]	577	24	545	4	2	2	2	212	194	833	610	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.01	0.08	0.00	0.00	0.00	0.00	0.06	0.11	0.25	0.18	0.18
Intersection LOS	A											
Intersection V/C	0.580											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	35	444	159	171	497	191	107	188	37	250	444	485
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	444	159	171	497	191	107	188	37	250	444	485
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	111	40	43	124	48	27	47	9	63	111	121
Total Analysis Volume [veh/h]	35	444	159	171	497	191	107	188	37	250	444	485
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.18	0.18	0.10	0.20	0.20	0.06	0.07	0.07	0.15	0.27	0.27
Intersection LOS	B											
Intersection V/C	0.664											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.817

Intersection Setup

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	357	418	497	55	779	525	173	679	244	527	1802	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	357	418	497	55	779	525	173	679	244	527	1802	112
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	105	124	14	195	131	43	170	61	132	451	28
Total Analysis Volume [veh/h]	357	418	497	55	779	525	173	679	244	527	1802	112
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Overla	Protect	Permis	Unsign	Protect	Permis	Permis
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.13	0.02	0.15	0.21	0.10	0.13	0.00	0.31	0.35	0.07
Intersection LOS	D											
Intersection V/C	0.817											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.583

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	424	1528	145	158	852	222	114	0	217	407	0	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	424	1528	145	158	852	222	114	0	217	407	0	525
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	106	382	36	40	213	56	29	0	54	102	0	131
Total Analysis Volume [veh/h]	424	1528	145	158	852	222	114	0	217	407	0	525
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.30	0.00	0.05	0.17	0.00	0.07	0.00	0.00	0.12	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.583											

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.001

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	342	956	482	273	661	263
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	342	956	482	273	661	263
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	239	121	68	165	66
Total Analysis Volume [veh/h]	342	956	482	273	661	263
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.56	0.22	0.22	0.39	0.00
Intersection LOS	F					
Intersection V/C	1.001					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.841

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	200	40	890	21	49	9	16	554	431	503	318	12
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	40	890	21	49	9	16	554	431	503	318	12
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	50	10	223	5	12	2	4	139	108	126	80	3
Total Analysis Volume [veh/h]	200	40	890	21	49	9	16	554	431	503	318	12
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.01	0.38	0.01	0.01	0.01	0.00	0.16	0.25	0.15	0.10	0.10
Intersection LOS	D											
Intersection V/C	0.841											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.720

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	21	588	193	366	525	84	187	263	53	209	179	212
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	588	193	366	525	84	187	263	53	209	179	212
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	5	147	48	92	131	21	47	66	13	52	45	53
Total Analysis Volume [veh/h]	21	588	193	366	525	84	187	263	53	209	179	212
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.23	0.23	0.22	0.18	0.18	0.11	0.09	0.09	0.12	0.12	0.12
Intersection LOS	C											
Intersection V/C	0.720											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.873

Intersection Setup

Name	Sa Ma			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sa Ma			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	295	745	645	28	286	279	491	1836	482	426	935	77
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	295	745	645	28	286	279	491	1836	482	426	935	77
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	74	186	161	7	72	70	123	459	121	107	234	19
Total Analysis Volume [veh/h]	295	745	645	28	286	279	491	1836	482	426	935	77
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Overla	Protec	Permi	Unsig	Protec	Permi	Permi
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.20	0.20	0.01	0.06	0.00	0.29	0.36	0.00	0.25	0.18	0.05
Intersection LOS	D											
Intersection V/C	0.873											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.639

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	355	1125	625	345	1710	129	137	0	651	232	0	173
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	355	1125	625	345	1710	129	137	0	651	232	0	173
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	89	281	156	86	428	32	34	0	163	58	0	43
Total Analysis Volume [veh/h]	355	1125	625	345	1710	129	137	0	651	232	0	173
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.22	0.00	0.10	0.34	0.00	0.08	0.00	0.00	0.07	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.639											

APPENDIX G-II

YEAR 2045 WITH PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.764

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	274	549	966	526	194	343
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	549	966	526	194	343
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	137	242	132	49	86
Total Analysis Volume [veh/h]	274	549	966	526	194	343
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.32	0.44	0.44	0.11	0.04
Intersection LOS	C					
Intersection V/C	0.764					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	577	24	547	4	2	2	2	219	194	839	632	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	577	24	547	4	2	2	2	219	194	839	632	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	6	137	1	1	1	1	55	49	210	158	2
Total Analysis Volume [veh/h]	577	24	547	4	2	2	2	219	194	839	632	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.01	0.08	0.00	0.00	0.00	0.00	0.06	0.11	0.25	0.19	0.19
Intersection LOS	A											
Intersection V/C	0.582											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.666

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	35	445	159	173	500	192	107	188	37	250	444	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	445	159	173	500	192	107	188	37	250	444	486
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	111	40	43	125	48	27	47	9	63	111	122
Total Analysis Volume [veh/h]	35	445	159	173	500	192	107	188	37	250	444	486
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.18	0.18	0.10	0.20	0.20	0.06	0.07	0.07	0.15	0.27	0.27
Intersection LOS	B											
Intersection V/C	0.666											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.819

Intersection Setup

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Parkway			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	357	418	497	60	779	525	173	682	244	527	1810	126
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	357	418	497	60	779	525	173	682	244	527	1810	126
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	105	124	15	195	131	43	171	61	132	453	32
Total Analysis Volume [veh/h]	357	418	497	60	779	525	173	682	244	527	1810	126
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Overla	Protect	Permis	Unsign	Protect	Permis	Permis
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.13	0.02	0.15	0.21	0.10	0.13	0.00	0.31	0.35	0.07
Intersection LOS	D											
Intersection V/C	0.819											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.583

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	435	1531	145	158	853	222	114	0	221	407	0	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	435	1531	145	158	853	222	114	0	221	407	0	525
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	383	36	40	213	56	29	0	55	102	0	131
Total Analysis Volume [veh/h]	435	1531	145	158	853	222	114	0	221	407	0	525
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.30	0.00	0.05	0.17	0.00	0.07	0.00	0.00	0.12	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.583											

Intersection Level Of Service Report
Intersection 1: El Toro Road at Glenn Ranch Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.002

Intersection Setup

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	El Toro Road		El Toro Road		Glenn Ranch Road	
Base Volume Input [veh/h]	342	958	486	273	661	263
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	342	958	486	273	661	263
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	240	122	68	165	66
Total Analysis Volume [veh/h]	342	958	486	273	661	263
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Overlap
Signal Group	1	6	2	0	3	8
Auxiliary Signal Groups						1,8
Lead / Lag	Lead	-	-	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.56	0.22	0.22	0.39	0.00
Intersection LOS	F					
Intersection V/C	1.002					

Intersection Level Of Service Report
Intersection 2: Marguerite Parkway/Saddleback Church at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.845

Intersection Setup

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Marguerita Parkway			Saddleback Church			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	200	40	896	21	49	9	16	576	431	506	331	12
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	40	896	21	49	9	16	576	431	506	331	12
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	50	10	224	5	12	2	4	144	108	127	83	3
Total Analysis Volume [veh/h]	200	40	896	21	49	9	16	576	431	506	331	12
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Split	Split	Overla	Split	Split	Split	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	6	6	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups			6,7									
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.01	0.38	0.01	0.01	0.01	0.00	0.17	0.25	0.15	0.10	0.10
Intersection LOS	D											
Intersection V/C	0.845											

Intersection Level Of Service Report
Intersection 3: Marguerite Parkway at Los Alisos Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.723

Intersection Setup

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Marguerite Parkway			Marguerite Parkway			Los Alisos Boulevard			Los Alisos Boulevard		
Base Volume Input [veh/h]	21	591	193	367	527	85	188	263	53	209	179	214
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	591	193	367	527	85	188	263	53	209	179	214
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	5	148	48	92	132	21	47	66	13	52	45	54
Total Analysis Volume [veh/h]	21	591	193	367	527	85	188	263	53	209	179	214
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.23	0.23	0.22	0.18	0.18	0.11	0.09	0.09	0.12	0.12	0.12
Intersection LOS	C											
Intersection V/C	0.723											

Intersection Level Of Service Report
Intersection 4: Santa Margarita Parkway/Portola Parkway at El Toro Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.879

Intersection Setup

Name	Sa Ma			Portola Parkway			El Toro Road			El Toro Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sa Ma			Portola Parkway			El Toro Road			El Toro Road		
Base Volume Input [veh/h]	295	745	645	42	286	279	491	1844	482	426	940	86
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	295	745	645	42	286	279	491	1844	482	426	940	86
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	74	186	161	11	72	70	123	461	121	107	235	22
Total Analysis Volume [veh/h]	295	745	645	42	286	279	491	1844	482	426	940	86
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protec	Permi	Permi	Protec	Permi	Overla	Protec	Permi	Unsig	Protec	Permi	Permi
Signal Group	1	6	0	5	2	2	3	8	0	7	4	0
Auxiliary Signal Groups						2,3						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.20	0.20	0.01	0.06	0.00	0.29	0.36	0.00	0.25	0.18	0.05
Intersection LOS	D											
Intersection V/C	0.879											

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.641

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	1
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	362	1127	625	345	1713	129	137	0	662	232	0	173
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	362	1127	625	345	1713	129	137	0	662	232	0	173
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	91	282	156	86	428	32	34	0	166	58	0	43
Total Analysis Volume [veh/h]	362	1127	625	345	1713	129	137	0	662	232	0	173
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.22	0.00	0.10	0.34	0.00	0.08	0.00	0.00	0.07	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.641											

APPENDIX H

CALTRANS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX H-I

EXISTING TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	17.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.404

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	379	980	67	125	575	201	104	0	153	154	0	325
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	379	980	67	125	575	201	104	0	153	154	0	325
Peak Hour Factor	0.864	0.864	0.864	0.864	0.864	0.864	0.864	1.000	0.864	0.864	1.000	0.864
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	110	284	19	36	166	58	30	0	44	45	0	94
Total Analysis Volume [veh/h]	439	1134	78	145	666	233	120	0	177	178	0	376
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	58	67	0	11	20	0	12	0	0	12	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	65	6	56	8	8
g / C, Green / Cycle	0.16	0.72	0.07	0.62	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.13	0.22	0.04	0.13	0.07	0.05
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	552	3647	228	3170	151	293
d1, Uniform Delay [s]	36.43	4.67	41.00	7.38	40.44	39.76
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.67	0.22	2.93	0.15	9.07	2.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.31	0.64	0.21	0.79	0.61
d, Delay for Lane Group [s/veh]	39.10	4.89	43.93	7.54	49.50	41.78
Lane Group LOS	D	A	D	A	D	D
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.76	2.12	1.64	1.72	2.96	1.96
50th-Percentile Queue Length [ft/ln]	119.11	52.88	41.07	42.89	73.88	49.00
95th-Percentile Queue Length [veh/ln]	8.34	3.81	2.96	3.09	5.32	3.53
95th-Percentile Queue Length [ft/ln]	208.61	95.18	73.93	77.20	132.99	88.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.10	4.89	0.00	43.93	7.54	0.00	49.50	0.00	0.00	41.78	0.00	0.00
Movement LOS	D	A		D	A		D			D		
d_A, Approach Delay [s/veh]	14.44			14.04			49.50			41.78		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.70											
Intersection LOS	B											
Intersection V/C	0.404											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.267	2.362
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	356	178	178
d_b, Bicycle Delay [s]	4.05	30.42	37.36	37.36
I_b,int, Bicycle LOS Score for Intersection	2.425	2.006	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	15.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	143	683	191	304	1049	116	115	0	330	102	0	149
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	683	191	304	1049	116	115	0	330	102	0	149
Peak Hour Factor	0.947	0.947	0.947	0.947	0.947	0.947	0.947	1.000	0.947	0.947	1.000	0.947
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	38	180	50	80	277	31	30	0	87	27	0	39
Total Analysis Volume [veh/h]	151	721	202	321	1108	122	121	0	348	108	0	157
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	22	26	0	34	38	0	30	0	0	30	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	59	11	64	8	8
g / C, Green / Cycle	0.07	0.66	0.12	0.71	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.04	0.14	0.09	0.22	0.07	0.03
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	233	3347	423	3627	156	303
d1, Uniform Delay [s]	40.95	6.17	38.24	4.77	40.22	38.70
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.03	0.15	2.83	0.22	8.04	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.22	0.76	0.31	0.78	0.36
d, Delay for Lane Group [s/veh]	43.98	6.32	41.07	4.99	48.27	39.41
Lane Group LOS	D	A	D	A	D	D
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.71	1.63	3.54	2.10	2.94	1.14
50th-Percentile Queue Length [ft/ln]	42.81	40.87	88.52	52.56	73.43	28.54
95th-Percentile Queue Length [veh/ln]	3.08	2.94	6.37	3.78	5.29	2.05
95th-Percentile Queue Length [ft/ln]	77.06	73.56	159.33	94.60	132.18	51.37

Movement, Approach, & Intersection Results

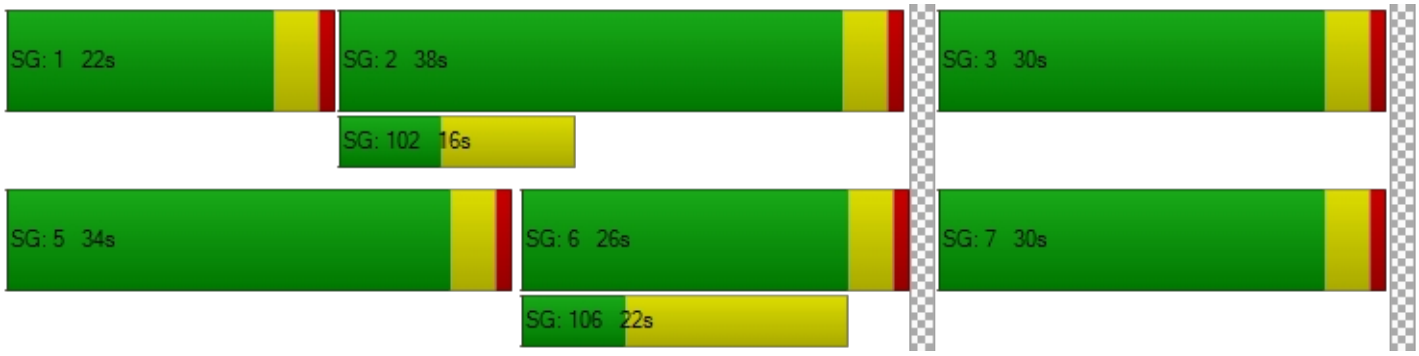
d_M, Delay for Movement [s/veh]	43.98	6.32	0.00	41.07	4.99	0.00	48.27	0.00	0.00	39.41	0.00	0.00
Movement LOS	D	A		D	A		D			D		
d_A, Approach Delay [s/veh]	12.84			13.10			48.27			39.41		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	15.81											
Intersection LOS	B											
Intersection V/C	0.400											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.197	2.383
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	489	756	578	578
d_b, Bicycle Delay [s]	25.69	17.42	22.76	22.76
I_b,int, Bicycle LOS Score for Intersection	2.039	2.346	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX H-II

EXISTING WITH PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	17.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	390	983	67	125	576	201	104	0	157	154	0	325
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	390	983	67	125	576	201	104	0	157	154	0	325
Peak Hour Factor	0.864	0.864	0.864	0.864	0.864	0.864	0.864	1.000	0.864	0.864	1.000	0.864
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	113	284	19	36	167	58	30	0	45	45	0	94
Total Analysis Volume [veh/h]	451	1138	78	145	667	233	120	0	182	178	0	376
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	58	67	0	11	20	0	12	0	0	12	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	65	6	56	8	8
g / C, Green / Cycle	0.16	0.72	0.07	0.62	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.13	0.22	0.04	0.13	0.07	0.05
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	565	3647	228	3152	151	293
d1, Uniform Delay [s]	36.25	4.68	41.00	7.53	40.44	39.76
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.66	0.22	2.93	0.15	9.07	2.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.31	0.64	0.21	0.79	0.61
d, Delay for Lane Group [s/veh]	38.91	4.90	43.93	7.69	49.50	41.78
Lane Group LOS	D	A	D	A	D	D
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.89	2.12	1.64	1.74	2.96	1.96
50th-Percentile Queue Length [ft/ln]	122.19	53.12	41.07	43.57	73.88	49.00
95th-Percentile Queue Length [veh/ln]	8.51	3.82	2.96	3.14	5.32	3.53
95th-Percentile Queue Length [ft/ln]	212.84	95.62	73.93	78.42	132.99	88.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.91	4.90	0.00	43.93	7.69	0.00	49.50	0.00	0.00	41.78	0.00	0.00
Movement LOS	D	A		D	A		D			D		
d_A, Approach Delay [s/veh]	14.55			14.16			49.50			41.78		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.78											
Intersection LOS	B											
Intersection V/C	0.405											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.270	2.362
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	356	178	178
d_b, Bicycle Delay [s]	4.05	30.42	37.36	37.36
I_b,int, Bicycle LOS Score for Intersection	2.434	2.006	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	15.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	150	685	191	304	1052	116	115	0	341	102	0	149
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	685	191	304	1052	116	115	0	341	102	0	149
Peak Hour Factor	0.947	0.947	0.947	0.947	0.947	0.947	0.947	1.000	0.947	0.947	1.000	0.947
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	40	181	50	80	278	31	30	0	90	27	0	39
Total Analysis Volume [veh/h]	158	723	202	321	1111	122	121	0	360	108	0	157
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	22	26	0	34	38	0	30	0	0	30	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	59	11	64	8	8
g / C, Green / Cycle	0.07	0.66	0.12	0.71	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.05	0.14	0.09	0.22	0.07	0.03
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	241	3347	423	3615	156	303
d1, Uniform Delay [s]	40.84	6.17	38.24	4.85	40.22	38.70
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.02	0.15	2.83	0.22	8.04	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.22	0.76	0.31	0.78	0.36
d, Delay for Lane Group [s/veh]	43.86	6.32	41.07	5.07	48.27	39.41
Lane Group LOS	D	A	D	A	D	D
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.79	1.64	3.54	2.14	2.94	1.14
50th-Percentile Queue Length [ft/ln]	44.73	41.00	88.52	53.44	73.43	28.54
95th-Percentile Queue Length [veh/ln]	3.22	2.95	6.37	3.85	5.29	2.05
95th-Percentile Queue Length [ft/ln]	80.52	73.80	159.33	96.18	132.18	51.37

Movement, Approach, & Intersection Results

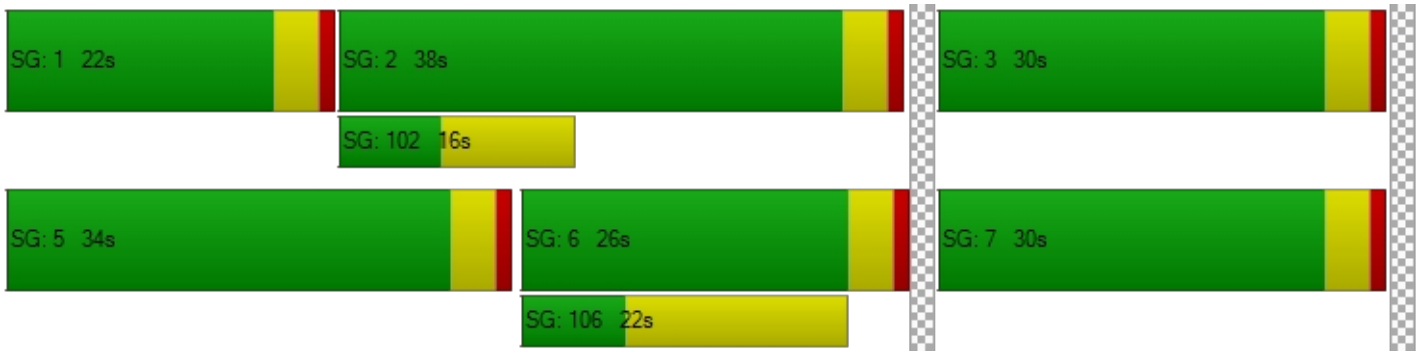
d_M, Delay for Movement [s/veh]	43.86	6.32	0.00	41.07	5.07	0.00	48.27	0.00	0.00	39.41	0.00	0.00
Movement LOS	D	A		D	A		D			D		
d_A, Approach Delay [s/veh]	13.05			13.14			48.27			39.41		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	15.90											
Intersection LOS	B											
Intersection V/C	0.403											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.199	2.383
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	489	756	578	578
d_b, Bicycle Delay [s]	25.69	17.42	22.76	22.76
I_b,int, Bicycle LOS Score for Intersection	2.044	2.347	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX H-III

YEAR 2023 WITHOUT PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	18.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.401

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	390	1074	90	133	744	211	109	0	158	174	0	337
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	390	1074	90	133	744	211	109	0	158	174	0	337
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	1.000	0.950	0.950	1.000	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	103	283	24	35	196	56	29	0	42	46	0	89
Total Analysis Volume [veh/h]	411	1131	95	140	783	222	115	0	166	183	0	355
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	67	77	0	11	21	0	12	0	0	12	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	74	6	65	8	8
g / C, Green / Cycle	0.15	0.74	0.06	0.65	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.12	0.22	0.04	0.15	0.06	0.05
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	510	3768	207	3321	144	279
d1, Uniform Delay [s]	41.25	4.36	46.08	7.16	45.18	44.63
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.06	0.20	3.86	0.17	9.81	2.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.30	0.68	0.24	0.80	0.66
d, Delay for Lane Group [s/veh]	44.30	4.56	49.94	7.33	55.00	47.24
Lane Group LOS	D	A	D	A	D	D
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	5.07	2.17	1.81	2.14	3.18	2.29
50th-Percentile Queue Length [ft/ln]	126.69	54.19	45.17	53.51	79.44	57.27
95th-Percentile Queue Length [veh/ln]	8.76	3.90	3.25	3.85	5.72	4.12
95th-Percentile Queue Length [ft/ln]	218.99	97.55	81.31	96.33	143.00	103.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.30	4.56	0.00	49.94	7.33	0.00	55.00	0.00	0.00	47.24	0.00	0.00
Movement LOS	D	A		D	A		D			D		
d_A, Approach Delay [s/veh]	15.15			13.79			55.00			47.24		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.48											
Intersection LOS	B											
Intersection V/C	0.401											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	39.61	39.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.264	2.368
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1460	340	160	160
d_b, Bicycle Delay [s]	3.65	34.45	42.32	42.32
I_b,int, Bicycle LOS Score for Intersection	2.408	2.067	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	147	879	208	317	1203	123	130	0	340	120	0	165
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	147	879	208	317	1203	123	130	0	340	120	0	165
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	1.000	0.950	0.950	1.000	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	39	231	55	83	317	32	34	0	89	32	0	43
Total Analysis Volume [veh/h]	155	925	219	334	1266	129	137	0	358	126	0	174
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	18	26	0	40	48	0	34	0	0	34	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	66	12	72	10	10
g / C, Green / Cycle	0.07	0.66	0.12	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.04	0.18	0.10	0.25	0.08	0.04
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	228	3364	427	3657	171	333
d1, Uniform Delay [s]	45.69	7.05	42.53	5.29	44.25	42.39
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.56	0.20	3.17	0.26	8.29	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.27	0.78	0.35	0.80	0.38
d, Delay for Lane Group [s/veh]	49.24	7.25	45.70	5.55	52.54	43.10
Lane Group LOS	D	A	D	A	D	D
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.98	2.53	4.16	2.86	3.69	1.49
50th-Percentile Queue Length [ft/ln]	49.62	63.18	103.92	71.47	92.34	37.15
95th-Percentile Queue Length [veh/ln]	3.57	4.55	7.48	5.15	6.65	2.68
95th-Percentile Queue Length [ft/ln]	89.32	113.72	187.06	128.65	166.21	66.88

Movement, Approach, & Intersection Results

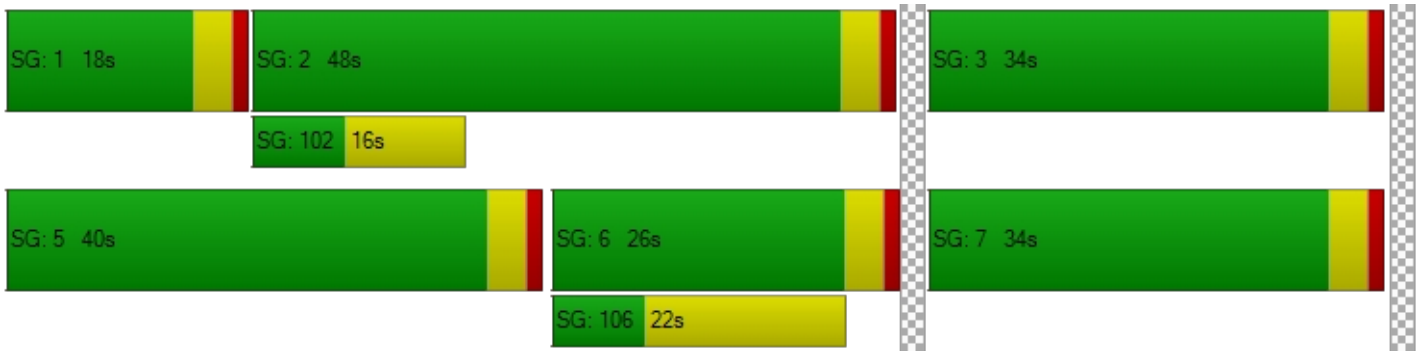
d_M, Delay for Movement [s/veh]	49.24	7.25	0.00	45.70	5.55	0.00	52.54	0.00	0.00	43.10	0.00	0.00
Movement LOS	D	A		D	A		D			D		
d_A, Approach Delay [s/veh]	13.28			13.93			52.54			43.10		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.74											
Intersection LOS	B											
Intersection V/C	0.441											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	39.61	39.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.207	2.394
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	440	880	600	600
d_b, Bicycle Delay [s]	30.42	15.68	24.50	24.50
I_b,int, Bicycle LOS Score for Intersection	2.154	2.440	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX H-IV

YEAR 2023 WITH PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	401	1077	90	133	745	211	109	0	162	174	0	337
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	401	1077	90	133	745	211	109	0	162	174	0	337
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	1.000	0.950	0.950	1.000	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	106	283	24	35	196	56	29	0	43	46	0	89
Total Analysis Volume [veh/h]	422	1134	95	140	784	222	115	0	171	183	0	355
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	67	71	0	16	20	0	13	0	0	13	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	74	6	65	8	8
g / C, Green / Cycle	0.15	0.74	0.06	0.65	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.12	0.22	0.04	0.15	0.06	0.05
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	522	3762	210	3303	144	279
d1, Uniform Delay [s]	41.07	4.40	45.98	7.31	45.17	44.61
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.05	0.21	3.61	0.17	9.74	2.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.30	0.67	0.24	0.80	0.66
d, Delay for Lane Group [s/veh]	44.11	4.60	49.59	7.48	54.91	47.22
Lane Group LOS	D	A	D	A	D	D
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	5.20	2.19	1.80	2.17	3.17	2.29
50th-Percentile Queue Length [ft/ln]	129.93	54.81	44.98	54.36	79.37	57.25
95th-Percentile Queue Length [veh/ln]	8.94	3.95	3.24	3.91	5.71	4.12
95th-Percentile Queue Length [ft/ln]	223.40	98.65	80.97	97.85	142.86	103.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.11	4.60	0.00	49.59	7.48	0.00	54.91	0.00	0.00	47.22	0.00	0.00
Movement LOS	D	A		D	A		D			D		
d_A, Approach Delay [s/veh]	15.32			13.86			54.91			47.22		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.57											
Intersection LOS	B											
Intersection V/C	0.405											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	39.61	39.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.267	2.368
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1340	320	180	180
d_b, Bicycle Delay [s]	5.45	35.28	41.41	41.41
I_b,int, Bicycle LOS Score for Intersection	2.415	2.068	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	154	881	208	317	1206	123	130	0	351	120	0	165
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	154	881	208	317	1206	123	130	0	351	120	0	165
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	1.000	0.950	0.950	1.000	0.950
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	41	232	55	83	317	32	34	0	92	32	0	43
Total Analysis Volume [veh/h]	162	927	219	334	1269	129	137	0	369	126	0	174
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	20	26	0	41	47	0	33	0	0	33	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	66	12	72	10	10
g / C, Green / Cycle	0.07	0.66	0.12	0.72	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.18	0.10	0.25	0.08	0.04
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	236	3364	427	3644	171	333
d1, Uniform Delay [s]	45.53	7.05	42.52	5.39	44.25	42.39
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.49	0.20	3.17	0.26	8.31	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.28	0.78	0.35	0.80	0.38
d, Delay for Lane Group [s/veh]	49.03	7.26	45.69	5.66	52.56	43.10
Lane Group LOS	D	A	D	A	D	D
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.07	2.53	4.16	2.91	3.69	1.49
50th-Percentile Queue Length [ft/ln]	51.74	63.34	103.91	72.70	92.36	37.16
95th-Percentile Queue Length [veh/ln]	3.73	4.56	7.48	5.23	6.65	2.68
95th-Percentile Queue Length [ft/ln]	93.14	114.02	187.04	130.86	166.25	66.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.03	7.26	0.00	45.69	5.66	0.00	52.56	0.00	0.00	43.10	0.00	0.00
Movement LOS	D	A		D	A		D			D		
d_A, Approach Delay [s/veh]	13.47			14.00			52.56			43.10		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.83											
Intersection LOS	B											
Intersection V/C	0.444											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	39.61	39.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.209	2.394
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	440	860	580	580
d_b, Bicycle Delay [s]	30.42	16.25	25.21	25.21
I_b,int, Bicycle LOS Score for Intersection	2.159	2.441	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX H-V

YEAR 2045 WITHOUT PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	18.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	424	1528	145	158	852	222	114	0	217	407	0	525
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	424	1528	145	158	852	222	114	0	217	407	0	525
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	106	382	36	40	213	56	29	0	54	102	0	131
Total Analysis Volume [veh/h]	424	1528	145	158	852	222	114	0	217	407	0	525
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	39	49	0	10	20	0	31	0	0	31	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	59	6	51	13	13
g / C, Green / Cycle	0.15	0.65	0.07	0.56	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.12	0.30	0.05	0.17	0.06	0.12
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	535	3315	234	2870	265	514
d1, Uniform Delay [s]	36.67	7.85	41.04	10.31	34.89	37.01
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.69	0.46	3.40	0.26	1.11	2.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.46	0.68	0.30	0.43	0.79
d, Delay for Lane Group [s/veh]	39.36	8.31	44.44	10.57	36.00	39.82
Lane Group LOS	D	A	D	B	D	D
Critical Lane Group	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.61	4.38	1.80	2.80	2.33	4.45
50th-Percentile Queue Length [ft/ln]	115.34	109.38	45.11	70.08	58.14	111.24
95th-Percentile Queue Length [veh/ln]	8.14	7.81	3.25	5.05	4.19	7.91
95th-Percentile Queue Length [ft/ln]	203.41	195.14	81.19	126.14	104.65	197.73

Movement, Approach, & Intersection Results

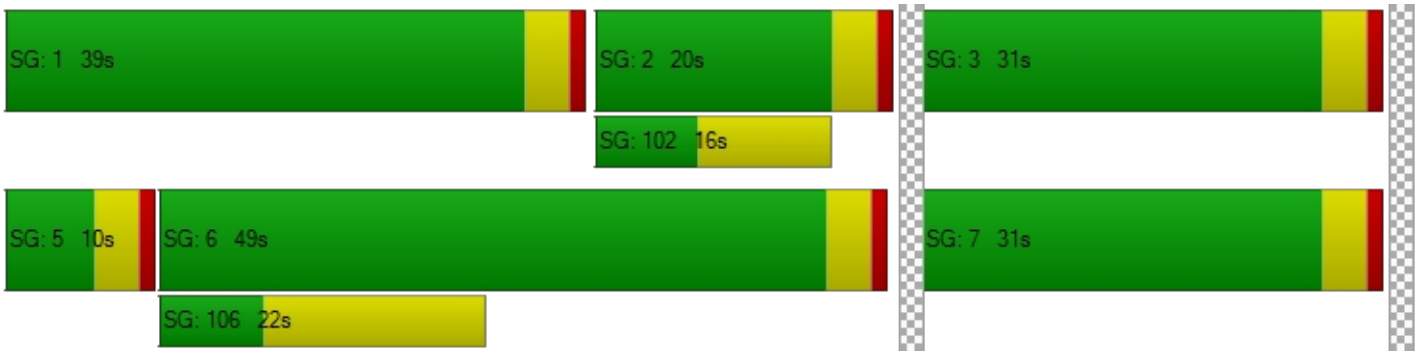
d_M, Delay for Movement [s/veh]	39.36	8.31	0.00	44.44	10.57	0.00	36.00	0.00	0.00	39.82	0.00	0.00
Movement LOS	D	A		D	B		D			D		
d_A, Approach Delay [s/veh]	15.06			15.87			36.00			39.82		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.87											
Intersection LOS	B											
Intersection V/C	0.563											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.262	2.410
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1000	356	600	600
d_b, Bicycle Delay [s]	11.25	30.42	22.05	22.05
I_b,int, Bicycle LOS Score for Intersection	2.633	2.115	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.627

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	355	1125	625	345	1710	129	137	0	651	232	0	173
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	355	1125	625	345	1710	129	137	0	651	232	0	173
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	89	281	156	86	428	32	34	0	163	58	0	43
Total Analysis Volume [veh/h]	355	1125	625	345	1710	129	137	0	651	232	0	173
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	27	26	0	25	24	0	39	0	0	39	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	58	12	57	9	9
g / C, Green / Cycle	0.13	0.64	0.13	0.64	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.10	0.22	0.10	0.34	0.08	0.07
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	456	3259	444	3241	176	341
d1, Uniform Delay [s]	37.83	7.50	38.02	8.97	39.65	39.23
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.90	0.29	2.97	0.62	7.29	2.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.35	0.78	0.53	0.78	0.68
d, Delay for Lane Group [s/veh]	40.73	7.79	40.99	9.59	46.94	41.61
Lane Group LOS	D	A	D	A	D	D
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.91	3.02	3.81	5.49	3.28	2.56
50th-Percentile Queue Length [ft/ln]	97.78	75.53	95.28	137.33	81.91	63.99
95th-Percentile Queue Length [veh/ln]	7.04	5.44	6.86	9.34	5.90	4.61
95th-Percentile Queue Length [ft/ln]	176.01	135.95	171.50	233.42	147.44	115.18

Movement, Approach, & Intersection Results

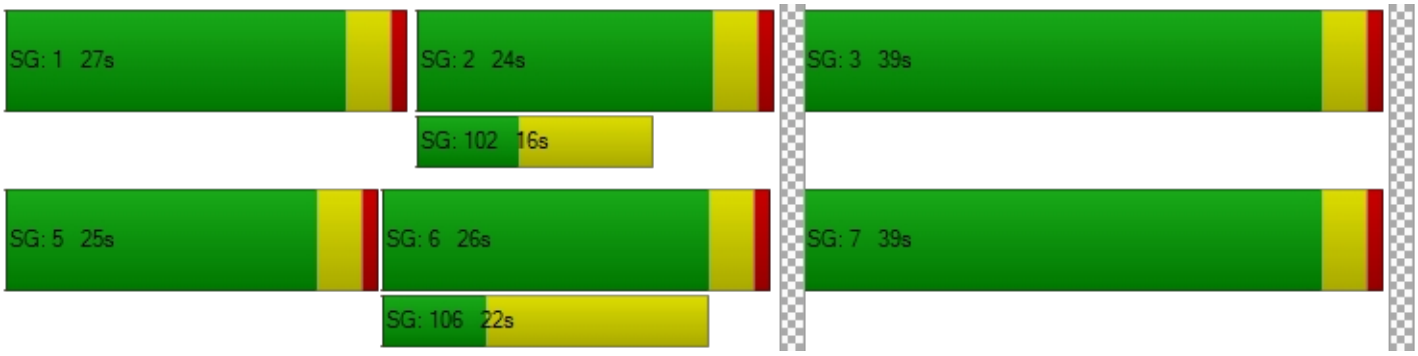
d_M, Delay for Movement [s/veh]	40.73	7.79	0.00	40.99	9.59	0.00	46.94	0.00	0.00	41.61	0.00	0.00
Movement LOS	D	A		D	A		D			D		
d_A, Approach Delay [s/veh]	15.69			14.86			46.94			41.61		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.89											
Intersection LOS	B											
Intersection V/C	0.627											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.251	2.412
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	489	444	778	778
d_b, Bicycle Delay [s]	25.69	27.22	16.81	16.81
I_b,int, Bicycle LOS Score for Intersection	2.374	2.690	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX H-VI

YEAR 2045 WITH PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	18.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.564

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	435	1531	145	158	853	222	114	0	221	407	0	525
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	435	1531	145	158	853	222	114	0	221	407	0	525
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	109	383	36	40	213	56	29	0	55	102	0	131
Total Analysis Volume [veh/h]	435	1531	145	158	853	222	114	0	221	407	0	525
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	39	49	0	10	20	0	31	0	0	31	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	59	6	51	13	13
g / C, Green / Cycle	0.16	0.65	0.07	0.56	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.13	0.30	0.05	0.17	0.06	0.12
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	547	3315	234	2853	265	514
d1, Uniform Delay [s]	36.51	7.86	41.04	10.47	34.89	37.01
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.68	0.47	3.40	0.27	1.11	2.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.46	0.68	0.30	0.43	0.79
d, Delay for Lane Group [s/veh]	39.19	8.32	44.44	10.74	36.00	39.82
Lane Group LOS	D	A	D	B	D	D
Critical Lane Group	No	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.73	4.39	1.80	2.84	2.33	4.45
50th-Percentile Queue Length [ft/ln]	118.19	109.69	45.11	70.91	58.14	111.24
95th-Percentile Queue Length [veh/ln]	8.29	7.82	3.25	5.11	4.19	7.91
95th-Percentile Queue Length [ft/ln]	207.33	195.57	81.19	127.64	104.65	197.73

Movement, Approach, & Intersection Results

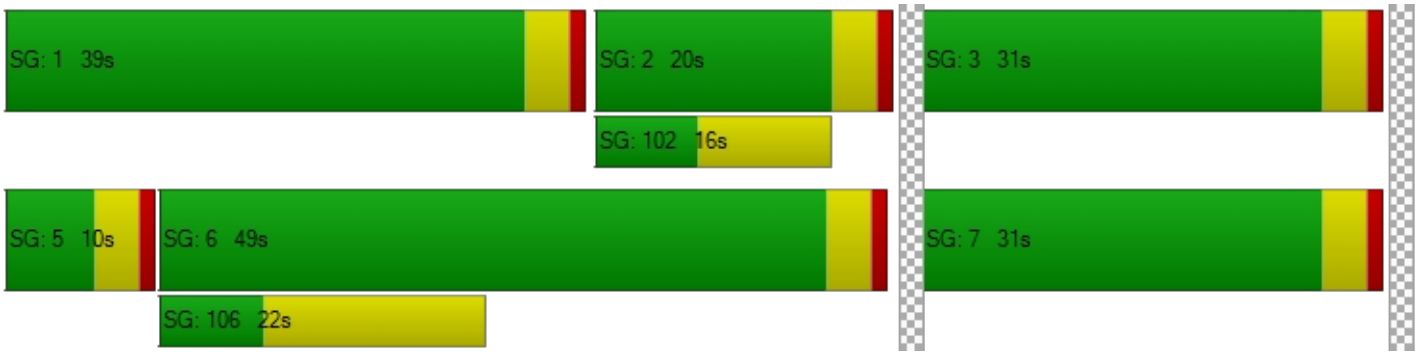
d_M, Delay for Movement [s/veh]	39.19	8.32	0.00	44.44	10.74	0.00	36.00	0.00	0.00	39.82	0.00	0.00
Movement LOS	D	A		D	B		D			D		
d_A, Approach Delay [s/veh]	15.15			16.01			36.00			39.82		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.95											
Intersection LOS	B											
Intersection V/C	0.564											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.264	2.410
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1000	356	600	600
d_b, Bicycle Delay [s]	11.25	30.42	22.05	22.05
I_b,int, Bicycle LOS Score for Intersection	2.641	2.116	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Portola Parkway at SR-241 Ramps

Control Type:	Signalized	Delay (sec / veh):	18.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

Intersection Setup

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Parkway			Portola Parkway			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	362	1127	625	345	1713	129	137	0	662	232	0	173
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	362	1127	625	345	1713	129	137	0	662	232	0	173
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	91	282	156	86	428	32	34	0	166	58	0	43
Total Analysis Volume [veh/h]	362	1127	625	345	1713	129	137	0	662	232	0	173
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [ped/h]	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [ped/h]	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protec	Permi	Unsig	Protec	Permi	Unsig	Permi	Permi	Unsig	Permi	Permi	Unsig
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	0	0	6	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	27	26	0	25	24	0	39	0	0	39	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	15	0	0	9	0	0	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	58	12	57	9	9
g / C, Green / Cycle	0.13	0.64	0.13	0.64	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.10	0.22	0.10	0.34	0.08	0.07
s, saturation flow rate [veh/h]	3459	5094	3459	5094	1781	3459
c, Capacity [veh/h]	464	3259	444	3230	176	341
d1, Uniform Delay [s]	37.73	7.50	38.02	9.09	39.65	39.23
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.91	0.29	2.97	0.63	7.29	2.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.35	0.78	0.53	0.78	0.68
d, Delay for Lane Group [s/veh]	40.64	7.80	40.99	9.71	46.94	41.61
Lane Group LOS	D	A	D	A	D	D
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.99	3.03	3.81	5.55	3.28	2.56
50th-Percentile Queue Length [ft/ln]	99.65	75.70	95.28	138.86	81.91	63.99
95th-Percentile Queue Length [veh/ln]	7.17	5.45	6.86	9.42	5.90	4.61
95th-Percentile Queue Length [ft/ln]	179.36	136.27	171.50	235.48	147.44	115.18

Movement, Approach, & Intersection Results

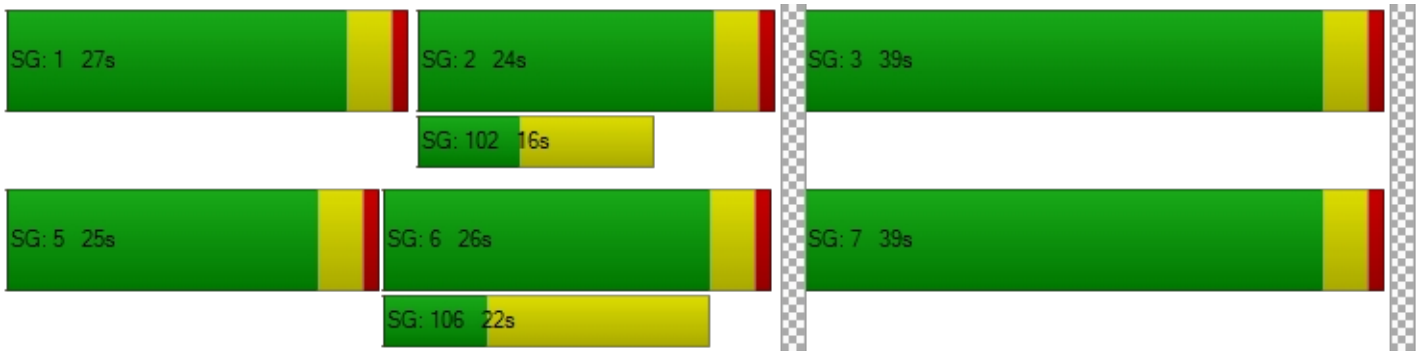
d_M, Delay for Movement [s/veh]	40.64	7.80	0.00	40.99	9.71	0.00	46.94	0.00	0.00	41.61	0.00	0.00
Movement LOS	D	A		D	A		D			D		
d_A, Approach Delay [s/veh]	15.78			14.96			46.94			41.61		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.97											
Intersection LOS	B											
Intersection V/C	0.630											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	34.67
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.252	2.412
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	489	444	778	778
d_b, Bicycle Delay [s]	25.69	27.22	16.81	16.81
I_b,int, Bicycle LOS Score for Intersection	2.379	2.692	1.560	1.560
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX I

PROJECT DRIVEWAY LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX I-I

YEAR 2023 WITH PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 6: Project Driveway at El Toro Road

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name	Project Driveway		El Toro Road		El Toro Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Driveway		El Toro Road		El Toro Road	
Base Volume Input [veh/h]	28	4	581	9	1	1098
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	4	581	9	1	1098
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	145	2	0	275
Total Analysis Volume [veh/h]	28	4	581	9	1	1098
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	14.74	10.80	0.00	0.00	8.67	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.25	0.25	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.14	6.14	0.00	0.00	0.08	0.00
d_A, Approach Delay [s/veh]	14.25		0.00		0.01	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.27					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Project Driveway at El Toro Road

Control Type:	Two-way stop	Delay (sec / veh):	19.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.066

Intersection Setup

Name	Project Driveway		El Toro Road		El Toro Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Driveway		El Toro Road		El Toro Road	
Base Volume Input [veh/h]	17	2	1090	28	4	729
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	2	1090	28	4	729
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	273	7	1	182
Total Analysis Volume [veh/h]	17	2	1090	28	4	729
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	19.89	13.45	0.00	0.00	10.84	0.00
Movement LOS	C	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	5.59	5.59	0.00	0.00	0.49	0.00
d_A, Approach Delay [s/veh]	19.21		0.00		0.06	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: Project Driveway at El Toro Road

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.071

Intersection Setup

Name	Project Driveway		El Toro Road		El Toro Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Driveway		El Toro Road		El Toro Road	
Base Volume Input [veh/h]	28	4	581	9	1	1098
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	4	581	9	1	1098
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	145	2	0	275
Total Analysis Volume [veh/h]	28	4	581	9	1	1098
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	14.91	11.72	0.00	0.00	10.87	0.00
Movement LOS	B	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.25	0.25	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.31	6.31	0.00	0.00	0.12	0.00
d_A, Approach Delay [s/veh]	14.51		0.00		0.01	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.28					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Project Driveway at El Toro Road

Control Type:	Two-way stop	Delay (sec / veh):	24.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.084

Intersection Setup

Name	Project Driveway		El Toro Road		El Toro Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Driveway		El Toro Road		El Toro Road	
Base Volume Input [veh/h]	17	2	1090	28	4	729
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	2	1090	28	4	729
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	273	7	1	182
Total Analysis Volume [veh/h]	17	2	1090	28	4	729
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	24.45	15.35	0.00	0.00	15.62	0.00
Movement LOS	C	C	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.00	0.00	0.04	0.00
95th-Percentile Queue Length [ft/ln]	7.24	7.24	0.00	0.00	0.88	0.00
d_A, Approach Delay [s/veh]	23.49		0.00		0.09	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.27					
Intersection LOS	C					

APPENDIX I-II

YEAR 2045 WITH PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 6: Project Driveway at El Toro Road

Control Type:	Two-way stop	Delay (sec / veh):	17.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.091

Intersection Setup

Name	Project Driveway		El Toro Road		El Toro Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Driveway		El Toro Road		El Toro Road	
Base Volume Input [veh/h]	28	4	761	9	1	1449
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	4	761	9	1	1449
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	190	2	0	362
Total Analysis Volume [veh/h]	28	4	761	9	1	1449
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	17.84	12.01	0.00	0.00	9.29	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.01	8.01	0.00	0.00	0.09	0.00
d_A, Approach Delay [s/veh]	17.11		0.00		0.01	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.25					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: Project Driveway at El Toro Road

Control Type:	Two-way stop	Delay (sec / veh):	29.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.103

Intersection Setup

Name	Project Driveway		El Toro Road		El Toro Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Driveway		El Toro Road		El Toro Road	
Base Volume Input [veh/h]	17	2	1465	28	4	833
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	2	1465	28	4	833
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	366	7	1	208
Total Analysis Volume [veh/h]	17	2	1465	28	4	833
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	29.19	17.37	0.00	0.00	13.15	0.00
Movement LOS	D	C	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.36	0.36	0.00	0.00	0.03	0.00
95th-Percentile Queue Length [ft/ln]	8.93	8.93	0.00	0.00	0.68	0.00
d_A, Approach Delay [s/veh]	27.95		0.00		0.06	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.25					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 6: Project Driveway at El Toro Road

Control Type:	Two-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.092

Intersection Setup

Name	Project Driveway		El Toro Road		El Toro Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Driveway		El Toro Road		El Toro Road	
Base Volume Input [veh/h]	28	4	761	9	1	1449
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	4	761	9	1	1449
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	190	2	0	362
Total Analysis Volume [veh/h]	28	4	761	9	1	1449
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	18.11	13.07	0.00	0.00	12.15	0.00
Movement LOS	C	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.33	0.33	0.00	0.00	0.01	0.00
95th-Percentile Queue Length [ft/ln]	8.25	8.25	0.00	0.00	0.15	0.00
d_A, Approach Delay [s/veh]	17.48		0.00		0.01	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.25					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: Project Driveway at El Toro Road

Control Type:	Two-way stop	Delay (sec / veh):	40.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.144

Intersection Setup

Name	Project Driveway		El Toro Road		El Toro Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Project Driveway		El Toro Road		El Toro Road	
Base Volume Input [veh/h]	17	2	1465	28	4	833
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	2	1465	28	4	833
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	366	7	1	208
Total Analysis Volume [veh/h]	17	2	1465	28	4	833
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.01	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	40.42	21.51	0.00	0.00	21.32	0.00
Movement LOS	E	C	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.51	0.51	0.00	0.00	0.05	0.00
95th-Percentile Queue Length [ft/ln]	12.77	12.77	0.00	0.00	1.36	0.00
d_A, Approach Delay [s/veh]	38.43		0.00		0.10	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	0.35					
Intersection LOS	E					

APPENDIX J

PROJECT DRIVEWAY TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

APPENDIX J-I

YEAR 2023 WITH PROJECT TRAFFIC CONDITIONS

Signal Warrants Report For Intersection 6: Project Driveway at El Toro Road

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1099	590	32
2	1055	566	31
3	1033	555	30
4	879	472	26
5	835	448	24
6	747	401	22
7	692	372	20
8	659	354	19
9	528	283	15
10	495	266	14
11	495	266	14
12	473	254	14
13	429	230	12
14	396	212	12
15	396	212	12
16	385	207	11
17	220	118	6
18	121	65	4
19	110	59	3
20	44	24	1
21	33	18	1
22	33	18	1
23	22	12	1
24	22	12	1

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	6	1689	1	32	No	No	No	No	No	No	No	No	No	No
2	6	1621	1	31	No	No	No	No	No	No	No	No	No	No
3	6	1588	1	30	No	No	No	No	No	No	No	No	No	No
4	6	1351	1	26	No	No	No	No	No	No	No	No	No	No
5	6	1283	1	24	No	No	No	No	No	No	No	No	No	No
6	6	1148	1	22	No	No	No	No	No	No	No	No	No	No
7	6	1064	1	20	No	No	No	No	No	No	No	No	No	No
8	6	1013	1	19	No	No	No	No	No	No	No	No	No	No
9	6	811	1	15	No	No	No	No	No	No	No	No	No	No
10	6	761	1	14	No	No	No	No	No	No	No	No	No	No
11	6	761	1	14	No	No	No	No	No	No	No	No	No	No
12	6	727	1	14	No	No	No	No	No	No	No	No	No	No
13	6	659	1	12	No	No	No	No	No	No	No	No	No	No
14	6	608	1	12	No	No	No	No	No	No	No	No	No	No
15	6	608	1	12	No	No	No	No	No	No	No	No	No	No
16	6	592	1	11	No	No	No	No	No	No	No	No	No	No
17	6	338	1	6	No	No	No	No	No	No	No	No	No	No
18	6	186	1	4	No	No	No	No	No	No	No	No	No	No
19	6	169	1	3	No	No	No	No	No	No	No	No	No	No
20	6	68	1	1	No	No	No	No	No	No	No	No	No	No
21	6	51	1	1	No	No	No	No	No	No	No	No	No	No
22	6	51	1	1	No	No	No	No	No	No	No	No	No	No
23	6	34	1	1	No	No	No	No	No	No	No	No	No	No
24	6	34	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	32
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1721
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 6: Project Driveway at El Toro Road

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	733	1118	19
2	704	1073	18
3	689	1051	18
4	586	894	15
5	557	850	14
6	498	760	13
7	462	704	12
8	440	671	11
9	352	537	9
10	330	503	9
11	330	503	9
12	315	481	8
13	286	436	7
14	264	402	7
15	264	402	7
16	257	391	7
17	147	224	4
18	81	123	2
19	73	112	2
20	29	45	1
21	22	34	1
22	22	34	1
23	15	22	0
24	15	22	0

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	6	1851	1	19	No	No	No	No	No	No	No	No	No	No
2	6	1777	1	18	No	No	No	No	No	No	No	No	No	No
3	6	1740	1	18	No	No	No	No	No	No	No	No	No	No
4	6	1480	1	15	No	No	No	No	No	No	No	No	No	No
5	6	1407	1	14	No	No	No	No	No	No	No	No	No	No
6	6	1258	1	13	No	No	No	No	No	No	No	No	No	No
7	6	1166	1	12	No	No	No	No	No	No	No	No	No	No
8	6	1111	1	11	No	No	No	No	No	No	No	No	No	No
9	6	889	1	9	No	No	No	No	No	No	No	No	No	No
10	6	833	1	9	No	No	No	No	No	No	No	No	No	No
11	6	833	1	9	No	No	No	No	No	No	No	No	No	No
12	6	796	1	8	No	No	No	No	No	No	No	No	No	No
13	6	722	1	7	No	No	No	No	No	No	No	No	No	No
14	6	666	1	7	No	No	No	No	No	No	No	No	No	No
15	6	666	1	7	No	No	No	No	No	No	No	No	No	No
16	6	648	1	7	No	No	No	No	No	No	No	No	No	No
17	6	371	1	4	No	No	No	No	No	No	No	No	No	No
18	6	204	1	2	No	No	No	No	No	No	No	No	No	No
19	6	185	1	2	No	No	No	No	No	No	No	No	No	No
20	6	74	1	1	No	No	No	No	No	No	No	No	No	No
21	6	56	1	1	No	No	No	No	No	No	No	No	No	No
22	6	56	1	1	No	No	No	No	No	No	No	No	No	No
23	6	37	1	0	No	No	No	No	No	No	No	No	No	No
24	6	37	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	19.2
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:06
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	19
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1870
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 6: Project Driveway at El Toro Road

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1099	590	32
2	1055	566	31
3	1033	555	30
4	879	472	26
5	835	448	24
6	747	401	22
7	692	372	20
8	659	354	19
9	528	283	15
10	495	266	14
11	495	266	14
12	473	254	14
13	429	230	12
14	396	212	12
15	396	212	12
16	385	207	11
17	220	118	6
18	121	65	4
19	110	59	3
20	44	24	1
21	33	18	1
22	33	18	1
23	22	12	1
24	22	12	1

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	7	1689	1	32	No	No	No	No	No	No	No	No	No	No
2	7	1621	1	31	No	No	No	No	No	No	No	No	No	No
3	7	1588	1	30	No	No	No	No	No	No	No	No	No	No
4	7	1351	1	26	No	No	No	No	No	No	No	No	No	No
5	7	1283	1	24	No	No	No	No	No	No	No	No	No	No
6	7	1148	1	22	No	No	No	No	No	No	No	No	No	No
7	7	1064	1	20	No	No	No	No	No	No	No	No	No	No
8	7	1013	1	19	No	No	No	No	No	No	No	No	No	No
9	7	811	1	15	No	No	No	No	No	No	No	No	No	No
10	7	761	1	14	No	No	No	No	No	No	No	No	No	No
11	7	761	1	14	No	No	No	No	No	No	No	No	No	No
12	7	727	1	14	No	No	No	No	No	No	No	No	No	No
13	7	659	1	12	No	No	No	No	No	No	No	No	No	No
14	7	608	1	12	No	No	No	No	No	No	No	No	No	No
15	7	608	1	12	No	No	No	No	No	No	No	No	No	No
16	7	592	1	11	No	No	No	No	No	No	No	No	No	No
17	7	338	1	6	No	No	No	No	No	No	No	No	No	No
18	7	186	1	4	No	No	No	No	No	No	No	No	No	No
19	7	169	1	3	No	No	No	No	No	No	No	No	No	No
20	7	68	1	1	No	No	No	No	No	No	No	No	No	No
21	7	51	1	1	No	No	No	No	No	No	No	No	No	No
22	7	51	1	1	No	No	No	No	No	No	No	No	No	No
23	7	34	1	1	No	No	No	No	No	No	No	No	No	No
24	7	34	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	14.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	32
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1721
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 6: Project Driveway at El Toro Road

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	733	1118	19
2	704	1073	18
3	689	1051	18
4	586	894	15
5	557	850	14
6	498	760	13
7	462	704	12
8	440	671	11
9	352	537	9
10	330	503	9
11	330	503	9
12	315	481	8
13	286	436	7
14	264	402	7
15	264	402	7
16	257	391	7
17	147	224	4
18	81	123	2
19	73	112	2
20	29	45	1
21	22	34	1
22	22	34	1
23	15	22	0
24	15	22	0

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	7	1851	1	19	No	No	No	No	No	No	No	No	No	No
2	7	1777	1	18	No	No	No	No	No	No	No	No	No	No
3	7	1740	1	18	No	No	No	No	No	No	No	No	No	No
4	7	1480	1	15	No	No	No	No	No	No	No	No	No	No
5	7	1407	1	14	No	No	No	No	No	No	No	No	No	No
6	7	1258	1	13	No	No	No	No	No	No	No	No	No	No
7	7	1166	1	12	No	No	No	No	No	No	No	No	No	No
8	7	1111	1	11	No	No	No	No	No	No	No	No	No	No
9	7	889	1	9	No	No	No	No	No	No	No	No	No	No
10	7	833	1	9	No	No	No	No	No	No	No	No	No	No
11	7	833	1	9	No	No	No	No	No	No	No	No	No	No
12	7	796	1	8	No	No	No	No	No	No	No	No	No	No
13	7	722	1	7	No	No	No	No	No	No	No	No	No	No
14	7	666	1	7	No	No	No	No	No	No	No	No	No	No
15	7	666	1	7	No	No	No	No	No	No	No	No	No	No
16	7	648	1	7	No	No	No	No	No	No	No	No	No	No
17	7	371	1	4	No	No	No	No	No	No	No	No	No	No
18	7	204	1	2	No	No	No	No	No	No	No	No	No	No
19	7	185	1	2	No	No	No	No	No	No	No	No	No	No
20	7	74	1	1	No	No	No	No	No	No	No	No	No	No
21	7	56	1	1	No	No	No	No	No	No	No	No	No	No
22	7	56	1	1	No	No	No	No	No	No	No	No	No	No
23	7	37	1	0	No	No	No	No	No	No	No	No	No	No
24	7	37	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	23.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:07
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	19
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1870
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

APPENDIX J-II

YEAR 2045 WITH PROJECT TRAFFIC CONDITIONS

Signal Warrants Report For Intersection 6: Project Driveway at El Toro Road

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1450	770	32
2	1392	739	31
3	1363	724	30
4	1160	616	26
5	1102	585	24
6	986	524	22
7	914	485	20
8	870	462	19
9	696	370	15
10	653	347	14
11	653	347	14
12	624	331	14
13	566	300	12
14	522	277	12
15	522	277	12
16	507	270	11
17	290	154	6
18	160	85	4
19	145	77	3
20	58	31	1
21	44	23	1
22	44	23	1
23	29	15	1
24	29	15	1

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	6	2220	1	32	No	No	No	No	No	No	No	No	No	No
2	6	2131	1	31	No	No	No	No	No	No	No	No	No	No
3	6	2087	1	30	No	No	No	No	No	No	No	No	No	No
4	6	1776	1	26	No	No	No	No	No	No	No	No	No	No
5	6	1687	1	24	No	No	No	No	No	No	No	No	No	No
6	6	1510	1	22	No	No	No	No	No	No	No	No	No	No
7	6	1399	1	20	No	No	No	No	No	No	No	No	No	No
8	6	1332	1	19	No	No	No	No	No	No	No	No	No	No
9	6	1066	1	15	No	No	No	No	No	No	No	No	No	No
10	6	1000	1	14	No	No	No	No	No	No	No	No	No	No
11	6	1000	1	14	No	No	No	No	No	No	No	No	No	No
12	6	955	1	14	No	No	No	No	No	No	No	No	No	No
13	6	866	1	12	No	No	No	No	No	No	No	No	No	No
14	6	799	1	12	No	No	No	No	No	No	No	No	No	No
15	6	799	1	12	No	No	No	No	No	No	No	No	No	No
16	6	777	1	11	No	No	No	No	No	No	No	No	No	No
17	6	444	1	6	No	No	No	No	No	No	No	No	No	No
18	6	245	1	4	No	No	No	No	No	No	No	No	No	No
19	6	222	1	3	No	No	No	No	No	No	No	No	No	No
20	6	89	1	1	No	No	No	No	No	No	No	No	No	No
21	6	67	1	1	No	No	No	No	No	No	No	No	No	No
22	6	67	1	1	No	No	No	No	No	No	No	No	No	No
23	6	44	1	1	No	No	No	No	No	No	No	No	No	No
24	6	44	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	32
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	2252
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 6: Project Driveway at El Toro Road

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	837	1493	19
2	804	1433	18
3	787	1403	18
4	670	1194	15
5	636	1135	14
6	569	1015	13
7	527	941	12
8	502	896	11
9	402	717	9
10	377	672	9
11	377	672	9
12	360	642	8
13	326	582	7
14	301	537	7
15	301	537	7
16	293	523	7
17	167	299	4
18	92	164	2
19	84	149	2
20	33	60	1
21	25	45	1
22	25	45	1
23	17	30	0
24	17	30	0

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	6	2330	1	19	No	No	No	No	No	No	No	No	No	No
2	6	2237	1	18	No	No	No	No	No	No	No	No	No	No
3	6	2190	1	18	No	No	No	No	No	No	No	No	No	No
4	6	1864	1	15	No	No	No	No	No	No	No	No	No	No
5	6	1771	1	14	No	No	No	No	No	No	No	No	No	No
6	6	1584	1	13	No	No	No	No	No	No	No	No	No	No
7	6	1468	1	12	No	No	No	No	No	No	No	No	No	No
8	6	1398	1	11	No	No	No	No	No	No	No	No	No	No
9	6	1119	1	9	No	No	No	No	No	No	No	No	No	No
10	6	1049	1	9	No	No	No	No	No	No	No	No	No	No
11	6	1049	1	9	No	No	No	No	No	No	No	No	No	No
12	6	1002	1	8	No	No	No	No	No	No	No	No	No	No
13	6	908	1	7	No	No	No	No	No	No	No	No	No	No
14	6	838	1	7	No	No	No	No	No	No	No	No	No	No
15	6	838	1	7	No	No	No	No	No	No	No	No	No	No
16	6	816	1	7	No	No	No	No	No	No	No	No	No	No
17	6	466	1	4	No	No	No	No	No	No	No	No	No	No
18	6	256	1	2	No	No	No	No	No	No	No	No	No	No
19	6	233	1	2	No	No	No	No	No	No	No	No	No	No
20	6	93	1	1	No	No	No	No	No	No	No	No	No	No
21	6	70	1	1	No	No	No	No	No	No	No	No	No	No
22	6	70	1	1	No	No	No	No	No	No	No	No	No	No
23	6	47	1	0	No	No	No	No	No	No	No	No	No	No
24	6	47	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	27.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:08
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	19
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	2349
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 6: Project Driveway at El Toro Road

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	1450	770	32
2	1392	739	31
3	1363	724	30
4	1160	616	26
5	1102	585	24
6	986	524	22
7	914	485	20
8	870	462	19
9	696	370	15
10	653	347	14
11	653	347	14
12	624	331	14
13	566	300	12
14	522	277	12
15	522	277	12
16	507	270	11
17	290	154	6
18	160	85	4
19	145	77	3
20	58	31	1
21	44	23	1
22	44	23	1
23	29	15	1
24	29	15	1

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	7	2220	1	32	No	No	No	No	No	No	No	No	No	No
2	7	2131	1	31	No	No	No	No	No	No	No	No	No	No
3	7	2087	1	30	No	No	No	No	No	No	No	No	No	No
4	7	1776	1	26	No	No	No	No	No	No	No	No	No	No
5	7	1687	1	24	No	No	No	No	No	No	No	No	No	No
6	7	1510	1	22	No	No	No	No	No	No	No	No	No	No
7	7	1399	1	20	No	No	No	No	No	No	No	No	No	No
8	7	1332	1	19	No	No	No	No	No	No	No	No	No	No
9	7	1066	1	15	No	No	No	No	No	No	No	No	No	No
10	7	1000	1	14	No	No	No	No	No	No	No	No	No	No
11	7	1000	1	14	No	No	No	No	No	No	No	No	No	No
12	7	955	1	14	No	No	No	No	No	No	No	No	No	No
13	7	866	1	12	No	No	No	No	No	No	No	No	No	No
14	7	799	1	12	No	No	No	No	No	No	No	No	No	No
15	7	799	1	12	No	No	No	No	No	No	No	No	No	No
16	7	777	1	11	No	No	No	No	No	No	No	No	No	No
17	7	444	1	6	No	No	No	No	No	No	No	No	No	No
18	7	245	1	4	No	No	No	No	No	No	No	No	No	No
19	7	222	1	3	No	No	No	No	No	No	No	No	No	No
20	7	89	1	1	No	No	No	No	No	No	No	No	No	No
21	7	67	1	1	No	No	No	No	No	No	No	No	No	No
22	7	67	1	1	No	No	No	No	No	No	No	No	No	No
23	7	44	1	1	No	No	No	No	No	No	No	No	No	No
24	7	44	1	1	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	17.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:09
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	32
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	2252
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 6: Project Driveway at El Toro Road

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	E, W
Minor Approaches	S
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	E	W	S
1	837	1493	19
2	804	1433	18
3	787	1403	18
4	670	1194	15
5	636	1135	14
6	569	1015	13
7	527	941	12
8	502	896	11
9	402	717	9
10	377	672	9
11	377	672	9
12	360	642	8
13	326	582	7
14	301	537	7
15	301	537	7
16	293	523	7
17	167	299	4
18	92	164	2
19	84	149	2
20	33	60	1
21	25	45	1
22	25	45	1
23	17	30	0
24	17	30	0

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	7	2330	1	19	No	No	No	No	No	No	No	No	No	No
2	7	2237	1	18	No	No	No	No	No	No	No	No	No	No
3	7	2190	1	18	No	No	No	No	No	No	No	No	No	No
4	7	1864	1	15	No	No	No	No	No	No	No	No	No	No
5	7	1771	1	14	No	No	No	No	No	No	No	No	No	No
6	7	1584	1	13	No	No	No	No	No	No	No	No	No	No
7	7	1468	1	12	No	No	No	No	No	No	No	No	No	No
8	7	1398	1	11	No	No	No	No	No	No	No	No	No	No
9	7	1119	1	9	No	No	No	No	No	No	No	No	No	No
10	7	1049	1	9	No	No	No	No	No	No	No	No	No	No
11	7	1049	1	9	No	No	No	No	No	No	No	No	No	No
12	7	1002	1	8	No	No	No	No	No	No	No	No	No	No
13	7	908	1	7	No	No	No	No	No	No	No	No	No	No
14	7	838	1	7	No	No	No	No	No	No	No	No	No	No
15	7	838	1	7	No	No	No	No	No	No	No	No	No	No
16	7	816	1	7	No	No	No	No	No	No	No	No	No	No
17	7	466	1	4	No	No	No	No	No	No	No	No	No	No
18	7	256	1	2	No	No	No	No	No	No	No	No	No	No
19	7	233	1	2	No	No	No	No	No	No	No	No	No	No
20	7	93	1	1	No	No	No	No	No	No	No	No	No	No
21	7	70	1	1	No	No	No	No	No	No	No	No	No	No
22	7	70	1	1	No	No	No	No	No	No	No	No	No	No
23	7	47	1	0	No	No	No	No	No	No	No	No	No	No
24	7	47	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	S
Total Stopped Delay Per Vehicle on Minor Approach (s)	38.4
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:12
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	19
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	2349
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**